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ABSTRACT

Prepared to assist in the planning for cable television in the Cincinnati, Ohio metropolitan area, this document provides not only general information about the history and current state of cable television, but also an example of the application of such information to the policy demands of a specific situation. Given the technology and capabilities of cable, the current regulatory structure, the experience of other big city systems, and the economics of major market cable systems, recommendations are made for the structuring of a Greater Cincinnati cable television system. (RH)

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VISIONS OF CABLE-VISION

by Robert L. Steiner

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Visions of Cablevision

The Prospects for Cable Television in the Greater Cincinnati Area

A Report to
The Stephen H. Wilder Foundation
December, 1972

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103 A Summary of Findings and Major Recommendations for Cable Television in the Greater Cincinnati Area

The Stephen H. Wilder Foundation

Under the last will of Edith Carson Wilder, widow of Stephen H. Wilder, there was established in 1941 The Stephen H. Wilder Foundation, for research in the field of public affairs affecting the Cincinnati area. Its board of directors was empowered to inquire into and investigate subjects of general interest to the people of Cincinnati and Hamilton County, to select expert or professionally competent investigators or critics of reputation for integrity, and to publish the results of their studies on selected subjects.

Since 1942 the Foundation has published studies on the effectiveness of the council-manager plan of government in Cincinnati, the Ohio State Constitution, racial discrimination in employment in Cincinnati, metropolitan government possibilities for the Greater Cincinnati Area and many others.

The present study on cable television was commissioned in light of the expected arrival of CATV in the Cincinnati metropolitan area. The author, Robert L. Steiner, was charged with providing both general background analysis and specific proposals for the kind of cable television service that might best serve the needs of our citizens.

Robert L. Steiner is a Cincinnatian with a wide background in both business and economics and a close involvement in a range of community endeavors. Mr. Steiner was graduated from Dartmouth College and holds an MA degree in economics from Columbia University. He was for many years associated with Kenner Products Company, a major toy manufacturer, where he was President before his recent retirement. He has authored articles in the fields of economics, marketing, and social commentary. Currently he serves on the *Cincinnati Environmental Task Force*, the *Ohio Commission on Local Government Services*, and the Boards of several civic organizations.

Foreword

This report explores the brief 20 year history of cable television (CATV) and examines its relatively mundane impact to date. It also provides forecasts, speculations and current recommendations for the development of CATV in the Greater Cincinnati area. It is a good faith attempt to furnish answers to such questions as: Will CATV deliver the social benefits envisioned by its sponsors? Will it wreck television broadcasting? Is pay cable a menace or a blessing? Can cable television operate profitably in Cincinnati? Is municipal ownership desirable?

The reason for furnishing such forecasts and recommendations is that the Trustees of The Wilder Foundation wanted it that way. Unfortunately, I agree that for this study to be of significant benefit to the Cincinnati Cable Task Force and the many other groups and just plain citizens who will be involved in planning cable television's future here, it must take firm positions wherever possible. Yet there is no field in which more entirely valid reasons can be adduced in support of a cop-out. The bank of major market television experience is virtually empty but is beginning to be filled at a rapid rate almost daily. CATV is one of those fields where we'll know a lot more in a year or two. As real life results pour in from the cities along with new rule making from Washington and perhaps Columbus, many of the conclusions I present will have to be amended and in some cases reversed entirely.

The reader must also be warned that the very fascination of the subject, which is its open-endedness, makes it impossible for any writer to feel that he is entitled to be licensed to practice throughout the length and breadth of cableland. I feel this warning label must be prominently displayed on any cable work, but especially on one produced by a person who entered the field as recently as I have.

Nonetheless I have not been shy in criticizing much of the present cable literature, it being apparent that on the whole it is the product of persons whose viewpoints have escaped that contamination which inevitably results from immersion in the operating management of business enterprise or the study of marketing theory. While I cannot furnish this particular pair of blameless credentials which heretofore have been prerequisite for admission into the guild of cable authors, I can present other areas of ignorance and doubtless harbor a different set of prejudices. Leonardo da Vinci is said to have been the last person who knew everything. It is a pity he is no longer around, for he would have been just the man to do a book on cable television.

Budget constraints prevented engaging consultants with expertise in cable's many specialized areas. However, I soon decided that I must at least have the services of good legal counsel to unravel the complex series of regulations at all levels of government that affect CATV. I made the happy choice of David Mann, a bright young Cincinnati attorney who had taken a broad interest in the potential of cable television. His work has been excellent, and he has turned over several legal stones exposing some hitherto hidden problems and opportunities.

Lastly, I must express my profoundest thanks to the many men and women whose brains I picked and whose valuable time I frequently monopolized in search of both first hand facts and informed analysis. Their enthusiasm and courtesy made my travels a marvelously pleasant as well as an informative experience.

—Robert L. Steiner
Cincinnati, Ohio
December, 1972

"Economics is the science which studies human behavior as a relationship between ends and scarce means which have alternative uses."

—Lionel Robbins,
"An Essay on the Nature and Significance of Economic Science."

1
Overview

The Birth of Cable

In the early days of television, many persons living in smaller communities were unable to receive satisfactory television reception even with the help of rooftop antennas. Their problem was one of distance from the nearest TV station or intervening hilly terrain which blocked the signal. It is 1950, and enter now our hero, Robert J. Tarlton, the operator of a radio and TV sales and repair service in just such a market—Lansford, Pa., a distance of 65 miles from Philadelphia. With some friends he founded Panther Valley Television Company to bring in 3 Philadelphia TV stations to the householders of Lansford "on the cable" and with a picture clarity often superior to that enjoyed in Philadelphia itself.

This miracle was performed by erecting a tall master antenna atop a mountain which intercepted the distant over-the-air Philadelphia signals. After strengthening the signals by amplification, they were fed through a coaxial cable strung on poles down the sides of the mountain to Lansford. Panther Valley charged a $125 installation fee, plus $3 per month rental, to hook up the home TV set to this cable via a smaller house-drop wire. Thus, in eastern Pennsylvania, and about the same time also in the hills of Oregon, there began a system that was labeled Community Antenna Television (CATV) where the television set received its signal through a connection to a coaxial cable rather than capturing the impulse over the air. This same essential Lansford setup, albeit with many new wrinkles, remains the basis of cable TV systems.

Over the past 20 years approximately 2,900 cable systems serving 6,500,000 households, or almost 10% of U.S. television homes, have become operational. The average system has but 2,200 subscribers and is located in a small town with the sole purpose of bringing in more channels and higher fidelity reception. Only 2% of the TV homes in major cities have been wired with cable. All major market cable systems are in their infancy, and the expansion of cable into urban areas has only just started.

Primarily, major market penetration was delayed by the television broadcasters, the movie industry and other interests intent upon cutting down the smalltown hero before he reached the big city. Partially on this account, it was not until early 1972 that the Federal Communications Commission clarified the cable ground rules

for the top 50 and 100 markets in a manner permitting the cable invasion to commence in earnest.

While cable was growing at an annual compound rate of about 10% in the small towns, back in the think tanks, the public foundations, the universities, and in other groups residing in urban centers, an avalanche of speculation was being generated over the wondrous future potential of cable. Never has the birth of an industry been attended by such a plethora of intellectual midwives! Their visions of its future result from a combination of the new technology with the social aspirations of liberal urban thinkers.

Essentially the technology turns on the fantastic broadband capacity of the coaxial cable which ends the present scarcity of television channels and provides instead "the television of abundance". Cables with a capacity of about 25 TV channels are presently standard, 2 cable systems (with a 50 channel potential) are in operation. Larger channel capacity cables will shortly be available. The coaxial cable can also carry FM radio, still frame pictures, and a huge stream of data bits.

Furthermore, 2-way communication is a present reality. TelePrompTer, the largest multi-system cable operator (MSO), is presently testing 2-way in El Segundo, California where 1,000 subscriber terminals have been installed. A subscriber can send a digital or audio response back downstream to the origination point. A multitude of additional services becomes possible. In early 1972, the F.C.C. mandated that all future cable systems must have 2-way capability.

Pay cable, where an extra per-program charge is made for movies, sporting events and other fare, will debut in a number of different forms in 1973.

The technology allows very small scale – even neighborhood cable sub-systems – at no significant cost penalty. Such systems would have sufficient channel capacity to permit neighborhood program origination, an educational system hooked up for the local schools, another for the municipality, channels to broadcast all local TV and FM radio stations, several more to import the offerings of TV channels in distant markets, and there remains spare capacity for lease to local merchants and other groups. Smaller cable units may be interconnected into a metropolitan area system which in turn may be tied into a regional and national cable network.

Visions of Cablevision

Those who have puzzled over cable's expected shape and impact have come up with a number of visions of the future – sweet dreams and nightmares alike. It is helpful to expose them at the outset so that we can check how well they accord with experience to date as we unfold the history of CATV and report case studies in various cities.

First Vision – Knowledge is Power. "What the cable promises is a quantum jump in access to knowledge."[1]

"Elites largely govern our nation's current decision-making process. The average citizen's failure to participate in that process perhaps derives largely from his inability to inform himself adequately on all the issues. However, the ability of

cable television (CATV) to place each person in complete command of his informational and entertainment environment has thrust society upon the threshold of an electronic communications revolution. Indeed, if CATV is allowed to develop its full potential, the individual will not have to receive information and entertainment passively. Rather, CATV's virtue of two-way communication will permit him to transmit as well as receive information. His access to the total storehouse of information will, therefore, increase, and as a result CATV will restore the average citizen to his rightful role in deciding vital issues."[2]

Second Vision–Towards a Solution of our Urban Problems. Cable television offers the most promising solution to a number of difficult communications problems facing our larger cities, concludes the Mayor's Advisory Task Force on CATV and Telecommunications of the City of New York.

Third Vision–The Cornucopia of Services. A cable system will provide higher quality color reception, import broadcast channels from other parts of the country, cover community events, and originate special interest programs. Through a domestic satellite serving cable television exclusively, 35,000 additional hours per week of entertainment and enlightenment will be made available over special pay cable channels including everything from X-rated movies, to language instruction and sporting events blacked out on local TV screens.

With 2-way cable a subscriber will cast a ballot, order goods from a store, make his own reservations for travel, theater, etc. His utility meters will be read. Mail will be delivered over his television set. Each house will have a burglar and fire alarm system. The cashless and checkless society will arrive when his bank account is automatically debited for services rendered over cable.

Municipalities will use cable to control traffic flow, to fight fire and crime. Units of government, hospitals, schools, and other institutions will be interconnected in a 2-way closed circuit cable network.

In schools and colleges, programable display terminals costing no more than $1,500 each, can access a steady stream of data being transmitted over a coaxial cable which will bring computer based learning down to the cost level of conventional instruction.

Students, from pre-schoolers to adults, will receive instruction at home and will interact with the teacher by 2-way response. A vast number of the cable channels will be devoted to education. Many conventional schools will become obsolete.

In conjunction with computers, the coaxial cable will provide our cities with an inexpensive telecommunication's grid with unbelievable data carrying capacity permitting us to turn the avalanche of data into usable knowledge. Predicting that the main future thrust of cable will come in the area of intra-urban data communications, Robert Smythe and David Baker[3] point out that in the time required to broadcast one hour of television, the same band width can carry 180 thousand messages of 400 words each, all different, to 180,000 people.

Fourth Vision–Audience Behavior, the Social Theorist's Statement. Program selection on television is determined by a small oligarchy of advertisers and network executives who totally control what is broadcast over the limited number of TV

channels. Since advertising revenues form virtually the sole support of broadcasting, and advertising is sold on a cost per thousand viewer's basis, the larger the audience the higher the advertising gross. To maximize tune-in, the level of taste has been reduced to the lowest common denominator. The result is "packaged junk" which "decivilizes" the nation.*

With its virtually limitless channels, cable while still carrying the mass appeal fare, can also "narrowcast"—i.e., originate programs appealing to almost every taste from Vivaldi affectionados to black revolutionaries, poetry lovers, and blind neighborhood discussion groups, etc., without limit. As such, cable television will come to resemble magazine publishing where mass audience weeklies like "Time" live side by side with a host of specialized journals such as "Beekeeper's Digest". Since the cable operator will derive his income by selling subscriptions rather than advertising, the more narrowcasting he does, the more different individual tastes he can cater to, the greater the number of homes he can hook up on his system.

Fifth Vision—Audience Behavior, the Old Media Buyer's View. With eyes bleary from studying the latest batch of ARB and Nielsen ratings, the media buyer reacts to the social theorist's vision with a tolerant skepticism. After all, he has built a career on his ability to forecast next season's tune-in. In his experience it is the public, by their carefully measured viewing habits, who determine what will be programmed next season—not the advertiser. Long ago when he was younger, he sometimes recommended elevating program buys only to be called on the carpet when the ratings revealed that only the producer and his wife were watching.

If he were the cable operator trying to induce the public to subscribe, he would cram all those extra channels with more sports, more movies, and more entertainment. How he wishes that the media buyers he competes with were as naive as the social theorists. Anyhow, nuts to narrowcasting! It sounds to him suspiciously like all those amateurishly produced talk shows on the local educational channels that pull, almost literally, zero viewers.

Sixth Vision—The Invasion Of Privacy Nightmare. "Police surveillance by cable, and the compiling of financial, credit, and other personal information about

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*At this point in the vision there is a schism in Cincinnati, as elsewhere, dividing the ranks of the faithful over the question of whether television does in fact provide the kind of programming desired by the majority. Prof. Roscoe Barrow is representative of the elitist wing that answers in the affirmative and proceeds to demean the result as an example of Gresham's Law, where the bad majority tastes drive out the good minority preferences.[4]

The opposing theology finds its doctrinal roots in passages from such works as the Alexander Kendrick biography of Edward R. Murrow, quoted approvingly by C. Joseph Sprague, the Executive Director of The Metropolitan Area Religious Coalition, before the Cincinnati Women's City Club. Kendrick denies that television fare is an expression of majority taste. He preaches that the networks and advertisers misunderstand what the mass audience desires but nevertheless impose their misguided notion on the public.

The preceptions of both men in this instance only argue that cable television is too massive for any one person to get his arms around. Dr. Barrow and Reverend Sprague are, in general, exceptionally well informed on cable matters. Dr. Barrow is our Cincinnati cable, legal eagle. Reverend Sprague and his Associate Director, Ed Lotspeich, deserve major credit for bringing cable television to the forefront of public awareness in our town.

individuals in computer banks, raise unprecedented issues of civil liberties and privacy. Privacy problems are also involved in the transmission of mail by cable. And in the creation of Facsimile Data Service . . . the question is, who will decide what data is to be included in these services, and what is to be left out? Unless the issues involved in these future uses of the cable are understood and faced, 1984 could easily come well in advance of George Orwell's prediction."[5]

Indeed Prof. Amitai Etzioni, Director of Columbia's Center of Policy Research, charged in a major speech before a cable television conference in Reston, Virginia on October 18, 1972 that the dreaded future has already arrived. Specifically he related that lists of the viewing habits of individual cable subscribers are being vended without their approval.*

Seventh Vision – Municipal Ownership. John W. Macy, President of the Corporation for Public Broadcasting, speaking at the 47th Annual Congress of Cities urged the assembled mayors to construct the cable system municipally – assuring them it would be worth the investment in public benefit and financial return. Macy said such a move "could have more lasting implications than any decision you make as mayor".

The Cable TV Study Committee appointed by the Common Council of the City of Detroit reported back in May, 1972 urging municipal construction of the Detroit cable system and operation by a public authority – the key justification being to "reinvest system revenues back into the cable system to support the public interest services".

The government of the Province of Saskatchewan has announced its intention to take over the existing cable systems and to erect and operate all new ones. The reasons given are that private operators have profited excessively in Regina and Saskatoon and would not extend cable services into smaller communities.

Writes black cable author Charles Tate, "Municipal ownership—beware!" Minority goals can best be achieved by minority, not municipal, ownership.

Eighth Vision – Cable and the Black Community – The Visions Of Charles Tate, Ted Ledbetter, Bill Wright and Other Black Thinkers. Blacks spend more time in front of their TV screen than whites. Their reliance on television as a source of news, as well as entertainment, is stronger than with whites. Yet blacks make up less than 6% of the total broadcast industry workforce and hold a still smaller percentage of the key jobs. None of our 696 commercial TV stations is black owned.

Black thinkers therefore have greeted cable television as an unlooked for second

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*Despite efforts at verification following leads furnished by Prof. Etzioni, nothing more nefarious than the occasional practice, which is very common among both magazines and organizations, of selling lists containing the names of CATV subscribers has been unearthed. A check with the well informed cable author, Ralph Lee Smith, who maintains a "privacy" file, revealed he knew of no instance as yet where lists containing individual subscriber's viewing habits had been sold. Considering the seriousness of the charge – akin in the present cable climate to calling a man a Communist in the McCarthy era, Dr. Etzioni should document his findings or publicly withdraw his charge.

chance. They dream of minority owned and operated cable systems in the inner-cities giving blacks a dominant communications voice within their own neighborhoods. Minority members would be employed in large numbers in the cable operation and many more still could be trained in all manner of skills permitting them to find jobs in the communications industry elsewhere. Entrepreneurial profits would be retained. For once blacks would get the major piece of the action!

Ninth Vision – Conflicting Hallucinations of Profitability.

- A cable franchise is a machine to print money.
- It is unlikely that cable systems can be profitable in major urban areas having 5 or 6 over-the-air channels that are received with good fidelity.
- Conventional cable systems cannot make it in the big cities, but elaborate systems offering interactive, computer assisted 2-way services to home and business are the wave of the future.
- Elaborate computer assisted, interactive systems are too expensive to be practical.

Tenth Vision–The Militant Broadcaster's Cable Nightmare. The television executive awakes, shivering from his dreadful nightmare. In it he has seen the great American television broadcasting industry prostrate before the new challenger–cable TV. TV broadcasting has been dislodged by "parasitic", unfair competition.

It started first in the small towns, but it wasn't too chilling because that's not where the profits came from. Then cable invaded the top 50 markets and with so many more channels to choose from, the tune-in became fractionalized. As the broadcaster's station lost its audience, it lost advertising revenue. He fumed as the courts held the cable operator could import stations from distant cities without paying the steep prices he had to incur to buy good programming.

But now the nightmare became more terrifying as that monster, pay cable, entered the dream. In 1981, 50% of American homes–35,000,000 households–were on the cable. The public was showing a willingness to pay a dollar or two for special movies and sporting events. Then came the knockout blow! The two rival professional basketball leagues had finally gotten together for the first "World's Series of Basketball". The television networks bid for this great spectacle, but advertisers could not match the offer of a syndicate of pay cable interests. The series went 7 games, and at $2 per game pulled an average 60% audience share on the cable for a total gross of $294,000,000!

Broadcasting never recovered from the shock. More and more alluring attractions appeared on cable, fewer and fewer over free advertising supported TV. By 1983 the average American home spent $84 a year for the basic cable subscription fee and $200 more for pay cable attractions. In that year the ABC and NBC networks folded along with 1/3 of all local television stations.

Government planners had a headache wondering about the shrinking TV options available to the 50% of American homes still not hooked up on the cable. But their pain was as nothing compared to the television executive's, recently awakened from his nightmare, as he reached for the Excedrin with one hand and the scotch with the other.

Eleventh Vision–Cable's Potential for "Creative Destruction through Decreasing the Gross National Product"–Ralph Nader's Dream. "There is an enormous potential here for improving the quality of life by decreasing the gross national product; for conserving our natural resources and still improving the flow of service and consumer needs" through the process of creative displacement of existing industries. As cable communications encroach on transportation, people can do more of their day's work at home and businessmen won't have to gallivant around the country on the airlines. Other ecological gains will occur when facsimile reproduction on the cable displaces the use of paper and conserves timber resources.[6]

Twelfth Vision–The Future Shape of the Human Body–An Evolutionary Prediction. So much will be offered to the subscriber that he will only with the greatest reluctance leave his cabled home terminal–complete with its multiplicity of controls, gadgets and black boxes. In 100 years, through the harsh dictates of the process of natural selection, the shape of homo sapiens will undergo radical alteration–legs and feet having little use and survival value will shrivel.

Additional fingers will sprout from the hands, since the present complement is hopelessly inadequate to activate the endless array of control buttons. The eyes and ears will have to undergo significant evolutionary betterment. Primarily however, that portion of the anatomy on which the new environment places the greatest demand for enhanced use, must be dramatically enlarged. It can confidently be anticipated that the circumference of the human rump in 2073 AD will be at least triple its relatively puny contemporary dimensions.

Cableman, circa 2073 A.D.

The Caterpillar, the Cocoon and the Butterflies

There are those who are willing with great conviction to forecast the future shape of cable television and its impact upon American society. Doubtless this is accomplished by means of a 2-way cable connection with the deity. However, the writer has been unable to arrange such a heavenly hook-up. The readership is advised not to take too seriously the positive pronouncements of the futurologists. These pages cannot therefore reliably reveal which of the foregoing visions of cablevision will come to pass.

The special problem of forecasting here may be illuminated by borrowing a framework from the world of entomology–the caterpillar, the cocoon and the butterfly. Cable's *caterpillar era* extends from its commencement around 1950 to about 1970. The caterpillar is found exclusively in small towns and his sole function in life is to provide TV reception where a sufficient number of conventional over-the-air broadcasting channels cannot be satisfactorily received. In 1970 as cable begins to more extensively into the major markets, where the variety and fidelity of television signals may be generally good, we enter the *cocoon era*. Inside his chrysalis where we can't see him, the caterpillar is changing into a new animal capable of performing various presently identifiable new functions or possibly of playing yet unanticipated roles. It will be perhaps 1977 until we have entered the *butterfly era*, when enough of the new winged creatures will be flying about so that we can truly observe them.

Our problem is that right now, in the cocoon era, we in Cincinnati, and those in other major urban areas must plan for the care and feeding of butterflies before we have ever seen them. All that we can do is to study the caterpillars for clues and go out to a few of the earliest constructed large city cable systems in hopes of catching the occasional immature butterfly from these first hatches, and put him under the microscope.

Planning for Cable Television in the Cincinnati Area

In September, 1972 Mayor Thomas Luken appointed the Cincinnati "Task Force on Urban Cable Communications", charged with bringing a series of recommendations to the City Council by May 20, 1973. The Task Force headed by Prof. Roger Fransecky, Director of the University of Cincinnati's Media Center, has been at work since then on its awesome assignment. For the fact is that under the Federal Communications Commission's dual regulatory scheme, the shape of our nation's communication system is literally being forged by City Councils across America. In the case of television broadcasting, all the shots were, and are, being called in Washington, D.C. But with cable TV, the F.C.C. has left very substantial prerogatives to the local authority.

These include the number of franchise areas, the selection of franchisees, whether the franchise is privately or municipally owned, the subscriber rate the cable operator may charge and many other powers to mold the character of the cable plant and the services it provides. Within the limits of the F.C.C. guidelines and subject to receiving its Certificate of Compliance, there is ample room for us to

create a hopeless mess or just conceivably a cable system which fulfills the fondest vision of cable's proponents.

Neither the Task Force nor the City Council can mandate the wired mess, nor create the cabled nirvana. That determination rests as much with our citizens and our institutions – the Board of Education, the libraries, health care institutions, business enterprises, community councils and other citizen groups. Also involved are the City Councils, County Commissioners and Regional Planning Authorities throughout the Cincinnati metropolitan area – for the regulatory flight from Washington is non-stop to every municipality in Ohio and Kentucky. Each possesses the same authority to franchise and regulate cable television as does the central city, Cincinnati. Certain smaller municipalities in our area have already granted franchises. Our limited gifts for regional planning and inter-city cooperation must be strenuously exercised lest we end up, not with a coordinated new communication system, but electronic segregation in the form of a series of unconnected and uncoordinated franchise areas.

As the twelve visions should make quite clear, cable television is a very open-ended and all pervasive matter. But we can make one statement which is not a vision but is a positive reality. *Cable's future is going to affect you, and you can affect its future right here in Greater Cincinnati!* This statement pertains equally to Appalachian whites, old Cincinnati dutch and blacks; to sports fiends, movie buffs or opera enthusiasts; to educators, policemen and politicians; to retailers, labor leaders and data processing salesmen; to residents of Erlanger, Avondale or Delhi Township.

2
The Technology and Capabilities of Cable TV

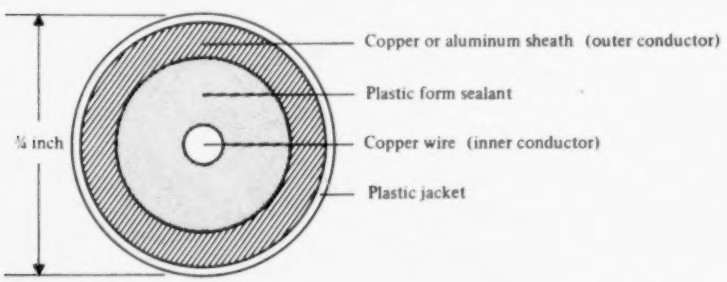
The Basic Modern Cable System

The heart of the technology is the coaxial cable itself which enables the transmission of television signals free from the interference which sometimes plagues over-the-air broadcasting. On a well constructed system the viewer enjoys superior audio and video reception, especially in color, even in areas of difficult TV reception. Cable enables UHF stations to achieve "signal parity" so that they are received with the same fidelity as those on the VHF band.

The tremendous signal carrying capacity of the coaxial cable was vividly portrayed by F.C.C. Commissioner Nicholas Johnson when he stated that comparing the cable to the telephone wire was like comparing "Niagara Falls to a garden hose".

Coaxial cable is referred to as broadband because it has a frequency band width of 300 million cycles per second (300 megahertz). (Telephone service by contrast has a band width of 3,500 cycles per second.) There is theoretical capacity to carry over 40 television channels, each of 6 megahertz band width, plus FM radio signals, still frame pictures and an enormous stream of data. Equipped with reversing amplifiers, messages can be sent back downstream from the home terminal.

The Coaxial Cable



The *main antenna*, located on the highest usable ground picks up signals off the air directly from television stations from a maximum distance of about 100 miles. Those at a greater distance will be received through a growing network of microwave links. Programming from distant sources may also come via satellite, some especially launched to serve cable television purposes. In these ways, regional, national and eventually international cable networks should emerge.

The *head end* receives the TV signals via the antenna tower, electronically filters them, and assigns new channel numbers for the home TV receiver. Present Channel 9 over the air may become Channel 3 on the cable. Sometimes a production studio is also located at the head end to originate programs that are, along with the normal off-the-air radio and TV signals, fed into the cable.

To wire up an urban area the size of Cincinnati will require from 3 to 5 separate head ends each serving a cable subsystem, all of which may be interconnected by a local microwave distribution system or supertrunk cable. In the present state of technology, unless these subsystems are constructed at the same time under a comprehensive plan requiring compatible equipment and mandating interconnection, it may prove vexing and will prove expensive to interconnect them later on. There are other benefits of convenience and cost which also flow from such areawide planning.

A *main trunk* coaxial cable distributes signals from each head end throughout the geographic area served. The trunk is strung either aerially on utility poles, in underground ducts (particularly in the downtown area) and in new developments may be plowed in trenches often simultaneously with other utilities. To boost the signal along the line *amplifiers* are inserted. The radius of the area from a head end that can be served is around 6 to 8 miles. The limit is set by the fact that if more than about 20 amplifiers in cascade are installed, signal quality becomes reduced below an acceptable level.

Feeder cables deliver the signal from the main trunk to the vicinity of the subscriber's home where a *house-drop cable* runs between the feeder and the home television set. The configuration of this *cable distribution system* in the wired city thus resembles a series of interconnected, tree-like networks—each network built around a head end. This tree-like grid chiefly provides service to homes, though schools and other institutions are also hooked up.

Ordinarily a cable TV set can receive 12 television channels. However, with the aid of a *set-top converter* the subscriber can pick up additional channels. There are for instance 9 TV channels in the midband width between Channels 6 and 7. In the current state of the art, a single cable system equipped with a converter has a theoretical capacity of 30 television channels. We say theoretical, because a certain number are lost due to the interference from local over-the-air VHF broadcasting stations.* Thus in Cincinnati with 3 VHF stations, a single cable with converter permits the subscriber to receive up to 27 TV channels with band width remaining to also carry FM radio signals.

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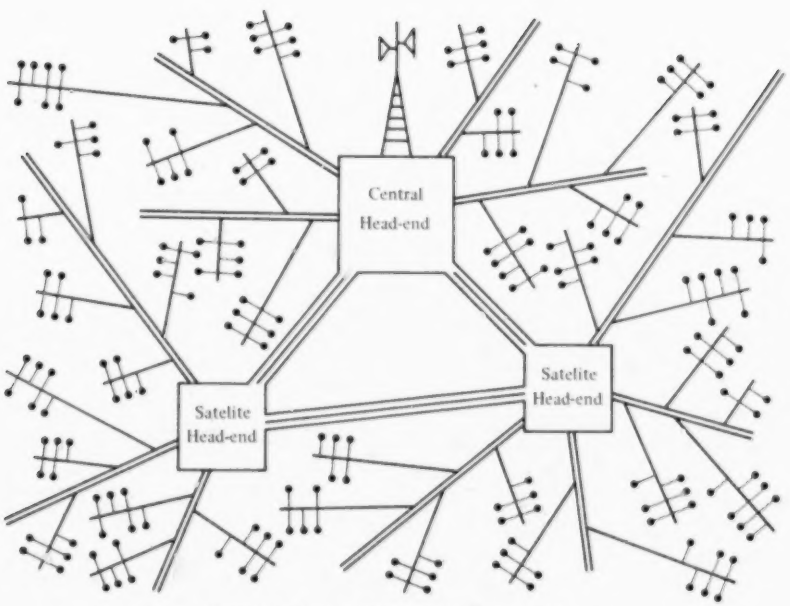
*Some experts dispute this, claiming that with modern set top converters the system is shielded tight enough to prevent penetration of outside television signals so that there is no loss of frequency space.



Tree-like Cable Distribution Network

In addition to there "forward" channels, the sub-band (below Channel 2) is often utilized to provide 3 to 4 "return", or downstream, channels which enable the subscriber to transmit signals from his home terminal back to the head end. Obtaining still higher capacity per cable both downstream and upstream involves more sophisticated converters and amplifiers, and these are rapidly being developed.

The CATV systems now being constructed in the major markets are built with a *dual trunk*, ie. two trunk cables. Since 25 to 30 channels may provide more than adequate capacity for the present and near future, the second trunk may not be initially activated. But even so it makes sense, both economically and in terms of tearing up the streets again, to lay both cables at once. The second cable can approximately double the home reception, or may instead be used to establish a separate network interconnecting businesses, schools, hospitals and other institutions.

At the *home terminal* is found the subscriber's home TV set and set-top converter and an optional "black box" decoder enabling him to unscramble pay TV channels. Later on other gadgetry will be added permitting the subscriber to transmit signals downstream. Eventually, the home terminal may also include a small computer and a video tape record play-back device. If two cables enter the home, the subscriber can select either by flipping an A-B switch.

Finally, in most of the Cincinnati area it appears that still another switch will be part of the home terminal equipment. The 1972 F.C.C. rules forbid Cincinnati's cable system from carrying Channels 2 and 7 from Dayton which enjoy a good audience in the Greater Cincinnati area. For a small extra charge the subscriber's TV set may be equipped with a switching device which can be set to select either cable or normal over-the-air reception. This situation has unfortunate ecological consequences. Usually CATV provides an ecological trade-off (with the visual

degradation of the house-drop cable judged a standoff against the elimination of unsightly roof-top antennas). In the city of Cincinnati if viewers desire to continue tuning in Dayton stations, ecologically we will suffer the worst of both worlds.

Full One-Way Cable Service

The futuristic two-way and computer interactive services envisioned for CATV will not figure importantly during its early years in Cincinnati. What the cable hardware above described will deliver is referred to as *full one-way service*. We shall be talking about these services throughout the book, but it is helpful to summarize them now. Full one-way cable service in Cincinnati would probably consist of:

6 channels–carrying all local over-the-air commercial and educational TV stations.
2 channels–carrying TV stations from Cleveland and Indianapolis.
1 channel–being a new local origination station operated by the cablecaster and providing automated news, weather and time plus live programming.
1 channel–providing a new educational channel received in homes and schools.
1 channel–providing a new cable municipal channel to be used by units of local government.
1 channel–furnishing a new public access (soap box) channel available to individuals or groups on a non-discriminatory basis.
1 or more channels–devoted to FM radio.
4 or more channels–available for lease to various private groups, institutions and entrepreneurs on a first come, first served basis. Typical uses may include courses offered by local universities, job training and employment openings for residents of the inner-city, special interest programs for doctors, lawyers and other professionals, paid political speeches during election campaigns, and channels leased to business to cablecast job training courses to employees at home.

None of these uses will result in an extra charge to the home subscriber, but channels will be leased to pay cable entrepreneurs and an extra charge will be assessed to the subscriber wishing to tune in.

Pay Cable. Pay cable is uniformly predicted to be the next major development in CATV. Assuming that major sections of the Cincinnati system become operational by the end of 1975, pay cable might even be available on the system from the start. Initial offerings are more likely to feature mass appeal fare such as championship boxing matches and movies made especially for cable. Later, packages directed at smaller audience segments are expected to appear. The full flowering of pay cable, especially in the delivery of non-entertainment services, will require two-way transmission. However, pay cable delivering movies and sports is feasible on a one-way system. Characteristic of most all pay TV schemes is some sort of "descrambling" device at the subscriber's home terminal which clears the otherwise garbled picture being sent over the cable channel. Various methods for accomplishing the descrambling and of charging the home subscriber are now being tested. In most of them, the subscriber inserts a specially coded card into a black box at his home terminal and presto, the picture is unscrambled!

The subscriber may be billed for each pay program he views, or he may purchase a subscription deal on a specially leased channel where he is billed monthly for a group of offerings and pays a certain amount regardless of the number of selections he watches. Either way, he must still use his special card to decode the channel. The advantages of the first method are that you are billed only for what you watch. Paul Vischer, the executive in charge of the Howard Hughes pay cable endeavors, favors the subscription deal system because collection costs run only 15% of the first method. Therefore the subscriber receives a far better value for his money, assuming reasonably frequent tune-in to the pay channel.

Engineering Reliability. According to the technical experts at the F.C.C. Cable Television Bureau, all of the wrinkles have now been worked out of the equipment, and it is reasonable for a city to expect that its cable plant can be built to deliver reliably the full package of one-way cable services. Such was not the case until recently, nor can the same statement be made insofar as two-way transmission is concerned. However, veterans knowledgeable in the field of cable construction warn that the supply of skilled cable engineers and technicians is limited. It appears inadequate to handle the land-office business of erecting the several thousand new cable franchises that are now waiting to go and the several thousand more that will be available to build in the next few years. Furthermore, our City Councils should be warned that there is a vast difference in the track records of different cable builders, and it will be essential to check this out very carefully before franchises are awarded.

Two-Way Cable Service

The range of possibilities with two-way communication over the cable goes from the simplest of systems where the subscriber has a "Yes-No" button on top of his TV set enabling him to respond back to the head end, to the most elaborate home terminals, connected with high capacity computers that provide a mind-boggling array of interactive communication possibilities. In between, and already in production, are *digital keyboard* consoles with a number of buttons resembling a larger touch-tone phone. The tops of the buttons are embossed with letters, numbers and symbols.

Doubtless the most thorough study in the field has been done by the Mitre Corporation of Reston, Virginia and is contained in its book, "Urban Cable Systems" which proposed to cable Washington, D.C. in a manner that will eventually provide the full benefits of this technology. Mitre divides bi-directional services into two basic phases. The simplest is "Subscriber Response Services", and the most elegant, "Electronic Information Handling Services". The latter is proposed to be implemented in Washington through a technology developed by Mitre which they dub "Time-Shared, Interactive, Computer-Controlled Information Television System" (TICCIT for short).

Subscriber Response Services (SRS). For this first stage of two-way cable, a small digital keyboard, a coupler and an address decoder is added to the home terminal.

The return channel capability which has been built into the original one-way distribution system is activated, and a small computer must be installed at each head end. The subscriber initiated message is limited in length. The Mitre proposal calls for experimental SRS in year three of the Washington system's operation and full implementation in year five. The incremental capital costs are equal to the costs of the original one-way cable system.

The services that may be enjoyed by the householder will open up a whole new world of participation, potentially replacing the passivity induced by one-way communication. Yet no one really knows which of these services the consumer will be willing to pay for. Experiments beginning in 1973 in El Segundo, California and elsewhere may give us some early answers to this before the franchise is awarded in Cincinnati. Here are a few of the 1st generation two-way services commonly anticipated by the cable industry:

- Husband and wife will continue their adult education by signing up for a course given by the university, but taken in the living room. The professor can ask questions which the students at home can answer through their digital keyboards.
- A "Town Meeting of the Air" cablecast only to citizens in one portion of the city will discuss neighborhood questions, and subscribers will vote from home on the issues discussed.
- Stores will lease channels to display their merchandise over the cable. The subscriber could purchase goods by sending the proper impluse back downstream from his home terminal. The purchase could be billed to his Master Charge account, or his bank balance might automatically be debited.
- Direct selling on two-way cable may have an even bigger future. The Polycom system being tested in Orlando, Florida enables the subscriber through a keyboard to indicate acceptance of merchandise offerings. When he buys, the message containing his order is printed out at the head end and the record album, or whatever, is then shipped to him.
- Utility meters may be read in similar fashion. Mitre forecasts that after 1975 such automatic meter reading will be cheaper and more accurate than the traditional meter man.
- With sensors placed in homes and offices, burglar and fire alarm devices may be continually interrogated from the head end and will respond back over the cable with answering impulses when the sensors are activated by an intruder opening a window, or the heat from a fire.

Electronics Information Handling Services (EIHS). EIHS requires at the home terminal the addition of a *refresh unit* which Mitre defines as a solid-state memory storage tube, a video deck, and video tape recorder. A very high capacity computer must be installed at the head end. A mountain of utilizable softwear in the form of computer programming must first be created. Assuming all of the above, subscribers now have direct two-way access to computers, to each other, and to the system control center. Furthermore the subscriber can now transmit large amounts of information alphanumerically. He will also be able to transmit pictorial information, but single frames rather than the normal form of television video is expected to prevail, since the latter requires a number of video channels. Where single frames are

being transmitted and a *frame grabber* is employed, many users may be accommodated on a single video channel.

The proposed installation in Washington, D.C. of the TICCIT system which Mitre has developed is calculated to cost four times as much as a full one-way cable system (and as much as the one-way plus the subscriber response service combined). Even this assumes that certain features are built into the one-way system when it is initially constructed, an extraordinarily unlikely event in Cincinnati. We should note that with any form of two-way, the investment proportions change. A lesser percentage of the costs are accounted for by the cable distribution system and a higher proportion go into home terminals, central computers and software with the result that economies of scale are considerably more meaningful than with one-way cable systems.

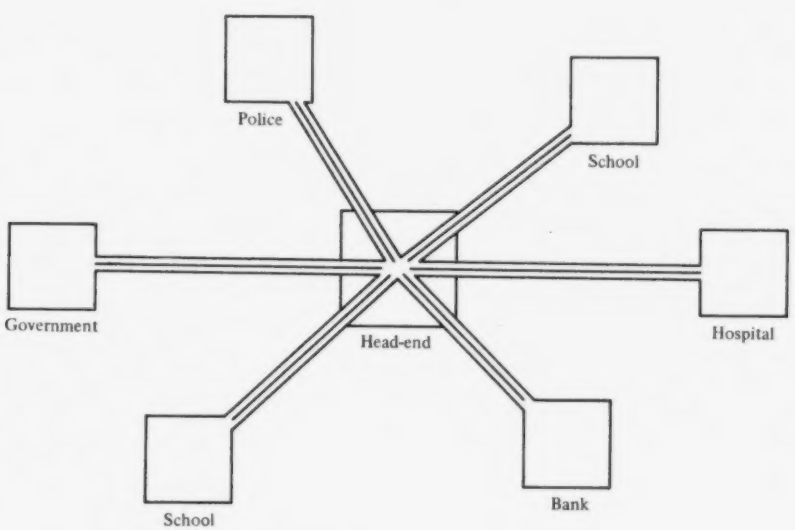
On October 20, 1972 the writer attended a conference on cable television sponsored by Mitre at which the first public demonstration of the latest TICCIT system took place. In 1973 the model will be test-marketed in Reston, Virginia with 1,000 subscribers. If TICCIT survives this hurdle, Mitre officials agree it is a long way from there to a demonstration of feasibility in the top 50 markets. If TICCIT or similar systems prove cost justifiable in the next 15 years, it is likely to be in the top four or five metropolises only. For Cincinnati, viewing TICCIT is a vision of what the distant future may look like.

- One of the most hopeful utilizations of this technology is a major program of Computer Assisted Instruction (CAI), both in schools and in the home. CAI allows each individual student to advance at his own pace. Tests of CAI demonstrate that children can very often learn at a considerably more rapid rate than with ordinary instruction.
- Through facsimile reproduction, the delivery of mail via the cable is being seriously discussed.
- A complete community reservations system has been demonstrated by Mitre. From his home the subscriber may scan seats available at the local theater, his dentist's appointment schedule, or the available flight schedules and seating selections on any airline flight. Having made his choice, he indicates his selection through the keyboard on his home terminal. In the first "primitive" stage, Mitre suggests the subscriber take a Polaroid shot of his screen for purposes of confirmation. Later, it is envisioned that "hard copies" will be delivered by a printer attached to the subscriber terminal.
- Through cameras and other origination equipment set up in libraries, museums and other reference source locations, the subscriber will initiate a request for specific information which will be displayed on his screen. The map, page of a book or whatever could also be retained on tape, if the subscriber desired, on his home video recording attachment.

Special Services. Mitre lumps in this final bi-directional category, a group of municipal and business services that generally do not involve households. Hence the special channels leased for these functions would not be received by the home subscriber, although the services would cover the entire geographic area of the urban cable network. Some of the special services envisioned are:

- A general purpose digital communications system would provide two-way service between offices and institutions (and perhaps an occasional home subscriber) – especially linking computer data banks with users.
- Traffic counters tied into a computerized traffic-light control center via a coaxial cable will adjust the timing of lights to the flow of traffic.
- Automatic Vehicle Monitoring (AVM) tests are being funded by the Department of Transportation in Philadelphia with the purpose of utilizing AVM in conjunction with cable systems in major cities. Streetside sensors interconnected by two-way cable will receive coded low power transmissions from vehicles in the area. The sensors transmit the identification and location of the vehicle back to a computer. With its position known at all times, the vehicle–be it police car, taxi or ambulance–can always be efficiently vectored to its next destination.

Cable Distribution Networks. To spread the blessing of both one and two-way cable service throughout Washington, Mitre has proposed two kinds of communications networks. The first is the traditional tree-like configuration whose purpose is principally bringing service to homes. A different kind of cable grid, which would not enter households, is known as a *point-to-point network* which will provide dedicated communications channels for large volume institutional users. All users within a particular point-to-point net will be interconnected with each other and to a head end. Separate point-to-point nets might be established for banks and other commercial institutions, for units of government, for health care delivery and for schools and universities.



A General Purpose Point-to-Point Network
(Separate point-to-point networks might eventually be established for schools, for commercial institutions, etc.)

Mitre summarizes the potential of point-to-point networks in this fashion.[1] "They would become highways of data transmission, available at lower cost than present data transmission modes. Two-way links among hospitals, clinics, and health care facilities, making possible the sharing of records, medical information, and 'telediagnosis' by two-way video, would be carried on the point-to-point nets. Training, surveillance, and records transmission among police facilities, and the transmission of expert testimony, records and evidence for use in court, would be among the services available for improving law enforcement.

"In education, schools would be able to share teachers, films, video cassettes, and other visual material, with each other, with students who cannot be present in the classroom, and with the community at large."

3

The Growth of Cable Television 1950-70, or Highlights in the Life of the Caterpillar

Highlights in the History of Cable

- In 1952 there were 70 cable systems serving 14,000 subscribers. These grew to 1,000 systems with 950,000 subscribers in 1963 and to approximately 2,900 systems serving 6,500,000 subscribers by 1972.
- In 1970 the average CATV system had only 2,000 subscribers. Around 800 had less than 500 subscribers. Only 8 systems had over 20,000.
- In the mid 1960's multi-system operators (MSO's) began to replace the early Mom and Pop cable entrepreneur. The biggest 10 MSO's by 1970 owned systems with 34% of all cable subscribers, and this share rose to 45% by November 1972.[1] The number of subscribers served by the three largest MSO's are: TelePrompTer 685,000, Cox American 530,000 and Warner Communications 370,000. By late 1972 the Federal government was worried about concentration and made its first attempt to block a cable television merger.
- The communications industry is hedging its bet and investing strongly in cable television. Broadcasters own 38% of CATV systems (though television networks are not permitted to own cable systems), newspapers and other publishers own 11% and motion picture interests account for 8%.
- The construction of systems with 12 channel capacity commenced in 1953. Most cable operations today have a capacity of 6 to 12 channels, but only 13% have a capacity of over 12 channels.
- Only around 20% of the cable systems originate live programming, though this percentage is growing rapidly. Most present operations do provide automated origination of time, weather and news.
- The cable industry is generally thought of as being divided into three parts – the system's operators, the hardware vendors and the suppliers of programming (software). By far the major equipment manufacturer is Jerrold Electronics, a division of General Instrument Corp. which accounts for an estimated 50% of all hardware sales. Program suppliers are many in number and tend to be small in size.

Profitability During the Caterpillar Era. The first two decades of cable are fondly remembered as the golden age of profitability by system operators. City Councils

frequently gave cable franchises with but minimal study, with terms running for as long as 25 years. Often the franchise holder had no responsibility other than providing clear TV signals and maintaining his system and the subscriber's home terminal in good repair. Many franchises granted exclusive rights to a single operator. If you desired decent television reception, you had to sign up with him on his terms.

The kind of profits that must necessarily flow from this sort of local monopolistic structure are obvious. In an oft quoted example, Milton S. Shapp divested himself of his CATV interests when he ran for Governor of Pennsylvania in 1966 for approximately $10 million. His original investment in the early 1950's was $500.

A model presented at the 1971 financial seminar of the Canadian Cable Television Association is characteristic of conditions in many smaller and medium size U.S. markets in the 50's and 60's. *Cable City Canada* has a population of 105,000 with 30,000 homes but can receive only two over-the-air stations. A total investment of $2.5 million is required to construct the system and provide working capital. The venture is financed by 50% debt at a 10% interest rate and 50% equity capital. Ten year straightline depreciation is taken. Subscriber fees at $6.25 per month form the sole source of revenue. There is not even a charge for installation.

After a $458,000 loss in year one, *Cable City's* operator shows a small profit in year two and $256,000 after tax earnings on revenue of $1,275,000 in the third year (at which time 17,000 of the potential 30,000 homes are subscribers). From there to the seventh and last year shown on *Cable City's* earning projection chart, revenues climb steadily and after tax earnings remain at the 20% level.[2]

A 1968 report on CATV by the investment research firm of Drexel, Harriman, Ripley presented a U.S. model based on a community of 30 to 40,000 people which may also be typical of the economics of the golden era. When 5,500 subscribers are signed, the system yields an annual profit of $167,000 after depreciation, interest, taxes and all other costs on an initial investment of $560,000.

In this climate it was only natural that municipalities should seek, via a gross receipts tax, to share in the goodies. Such taxes in some cases reached outlandish proportions of the cable system's revenues (in excess of 20%). Some franchisees were able to share the wealth with municipalities by raising subscriber fees with the consent of the City Councils. On the other hand, many cable entrepreneurs went on the theory that they would sign anything to get the franchise and hope to be able to get the terms modified later. Where cities who had imposed enormously high franchise fees refused to back down, the cable operator might decide not to build the system at all or only to construct it in a few very profitable portions of his franchise area.

Hi-Jinks. Though most cable entrepreneurs and city officials are doubtless men of integrity, enough irregularities have surfaced to cast a suspicious aroma over the franchising process in many minds. The Center for Analysis of Public Issues at Princeton has completed a study of franchises in scores of New Jersey cities – a state that has been heavily cabled because it possesses no VHF television stations. The report described numerous examples of extortion and payoffs between city

councilmen and cable applicants. The most publicized scandal in cable's history was the indictment of the then president of TelePrompTer, Irving B. Kahn, on charges of paying $15,000 to three city councilmen in Johnstown, Pennsylvania to obtain the franchise there. Mr. Kahn was convicted in December, 1971 and has appealed. The three officials, including the mayor, were also indicted and later convicted.

Three Major Cable Battles

CATV's expansion began to threaten existing economic interests. Such menaced groups retaliated by aiming their slings at cable's soft underbelly where it was vulnerable in the areas of rights of way, copyright, and pay cable.

Ma Bell Puts on the Gloves. "The Wired Nation", by Ralph Lee Smith, portrays the fascinating efforts of AT&T to control the second communications wire coming into the home – a wire which as we have seen has far greater carrying capacity than the telephone. Behind Ma Bell's strategy was the projection that it could not rely on conventional telephone services for major future growth but must look to picture phone, data transmission, pay cable and other services excepted to be offered by municipally licensed CATV systems.

According to Smith, phone companies sometimes obstructed the growth of franchised cable entrepreneurs by causing them long delays, excessive charges or outright refusal to let the CATV operator use their poles and conduits. Phone companies have apparently also used their easements into apartment dwellings to prevent the entrance of the cable. By 1969, however, the cable industry seems to have won this battle. In that year AT&T and General Telephone agreed to place no impediment on CATV operators desiring to rent space on their poles or in their conduits. This does not mean that the Bell labs are now taking the challenge lightly, nor that they plan to let franchised cable companies take over the many non-voice and other services without a fight. Given its technological capability and marketing muscle, the telephone company may yet end up capturing many kinds of markets which some enthusiasts have already conceded to the cable operators.

The Fight to Save Free TV and Ban Pay Cable. The bloody war on the pay cable front has been raging for 20 years.* The assorted troops doing battle with the cable interests have been recruited from NATO – in this instance the National Association of Theater Owners – and from movie producers and performers, television broadcasters and professional sports interests. These troops have from the first shot rallied around the banner "Save Free TV". They have introduced numerous bills into the Congress and the State and Local Legislatures to outlaw pay cable. A number of present cable franchises forbid this practice, though in light of later F.C.C. rulings it is doubtful that such prohibitions will stand up.

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*The practice of levying extra per-program or per-channel charges on a cable subscriber is indiscriminately and carelessly referred to throughout the cable literature as pay TV, pay cable, subscription TV (STV), and more recently the euphemism "premium TV" has been coined and promoted by the cable industry. Properly, pay TV and STV relate to extra charges for receiving over-the-air broadcasts. Pay cable or subscription cable are the clearest terms to use for CATV purposes.

The F.C.C. announced its first "Notice of Proposed Rule Making" on the subject in 1955 and by 1957 had decided that the Communications Act of 1934 empowered it to authorize pay television and pay cable. Nonetheless, so fiercely did the battle rage that it was not until 1962 that the Commission authorized a 7-year pay experiment in Hartford, Connecticut. This decision was promptly challenged by the anti-pay high command, but the F.C.C. was upheld in a Court of Appeals.

In the Hartford pay test, 599 different programs were offered, some repeated several times, for the modest average charge of slightly over $1 each. The average subscriber spent $65/year for programs and $39 for rental of a decoder. Most of the offerings consisted of movies of the kind that were not generally available over regular television. The largest subscriber tune-in, 82.9%, was for the first Ali-Liston fight. The experiment strictly speaking was a test of pay television rather than pay cable, because the broadcasts were transmitted over-the-air from a local TV station rather than via cable. Whether this is an important distinction, and whether the test was a complete flop or only a modest one, depends upon whom you read. The fact remains that neither the much ballyhooed Hartford test nor an earlier and smaller experiment of actual pay cable in Oklahoma were successful. As of late 1972, these are the only empirical results available from U.S. experience.*

The Copyright Problem, or "Stop the Pirates". Though the cable operator's main sales pitch to the prospective subscriber has been that cable will bring him clear reception of both local and distant TV stations, he had made no payment to the TV stations or other owners of the programs being broadcast. To the local over-the-air broadcaster who had paid an arm and a leg for programming and whose audience share was now being threatened by the importation of distant signals, this seemed an outrage. He bellowed loudly and has been hollering ever since.

Many confidently expected that the cable forces would surely lose this battle. However, in the case of Fortnightly vs United Artists, the U.S. Supreme Court held that the retransmission by the cable operator was not subject to the copyright act because the cablecaster did not actively "perform" a copyrighted material. Rather, his role was in the nature of a "passive beneficiary" akin to the household viewer seeking to improve the fidelity of the signal already available. Later, a consensus agreement was reached by the various industries involved whereby the cable operator was free to pick up over-the-air signals and provide them to his subscribers, but he agreed to compensate the copyright owner on a reasonable sliding scale basis. Congress has not yet acted to santify this "concordat" and the agreement may yet come apart.

Columbia Broadcasting, for instance, has appealed to the Circuit Court to overturn an adverse lower court decision that had been based on the Fortnightly case. CBS argues that with the enlarged group of functions now being performed by cablecasters they have become more akin to broadcasters than to viewers and should therefore be subject to the copyright laws.

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*A Canadian pay cable experiment in the Etobicoke section of Toronto at lower cost to the subscriber seems to have been more successful.

The F.C.C. and the Congress. Because the F.C.C.'s 1972 Report and Order is the present reality which we shall deal with later, the Commission's earlier actions are not of major interest. Suffice it to say that the Commission's position evolved from an initial view that it had little jurisdiction over CATV to the present situation where the F.C.C. has become the major regulatory force shaping cable's future. Along the way it sought to achieve a balance wherein cable could grow, while at the same time broadcasting, and especially the UHF stations, would not be inundated by the new communication medium. F.C.C. regulations promulgated in 1966 and 1968 made it virtually impossible, in practice, for operators in the 100 largest markets to import distant signals–which in good measure prevent the penetration of cable systems into the major markets.

All along, Congress had the prerogative, indeed the duty, to enact the legislation which would shape the future of this major communication revolution. Congressional failure to do so is plainly a failure of our system of government to function. Observers on Capitol Hill explain that the competing major interests brought such intensive countervailing pressures as to create an impasse where our elected representatives could not summon the foresight or courage to act. It was to remedy this abdication of responsibility, that the F.C.C. at length was forced to step in and fill the regulatory vacuum.

The Forms of CATV Ownership. Traditionally private entrepreneurship has been the force driving the growth of cable television during its first two decades. Of the 2,570 CATV systems in operation in 1970, only 43 appeared to vary from this conventional private ownership form according to a compendium compiled in "Cable Television in the Cities".[3] 9 systems were "city owned", 30 were "subscriber owned" (co-op types), and 4 "government operated" (by the U.S. Armed Forces at various bases). All of these 43 alternate ownership tapes were in small towns. One of the largest of these systems is located in Frankfort, Kentucky, which is 84 miles southwest of Cincinnati.

The strong preponderance of private ownership has not prevented a lively advocacy of municipal ownership in the burgeoning cable literature. Many students of cable are persuaded that only in this way can the true community benefits accrue to residents of urban areas.

CATV in Frankfort, Kentucky

Frankfort provides a rich lode for exploration. It is one of those typically smaller markets without a TV station where reception from other cities was effectively blocked by terrain and distance. In this nearby community, over 90% of the households are hooked up and receive the conventional services offered by cable television of the caterpillar era. Subscribers there pay one of the lowest monthly rates anywhere. It is probably the only city with both a public and private cable system.

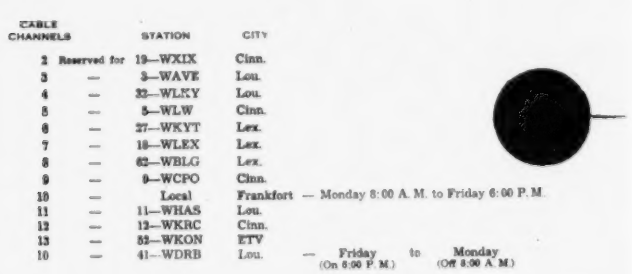
Community Service, Inc.–The Publicly Owned Cable System. The Frankfort Electric and Water Plant Board (referred to as the Plant Board) is a statutory board,

authorized by the State of Kentucky, which owns and operates the electric and water supply systems. Therefore the Plant Board is not really a creature of the City of Frankfort, although the City Commission does appoint the members of the Plant Board.

By its control of utility poles, the Plant Board assumed it had the right to erect and operate a cable television system in the City of Frankfort as well as some of the surrounding environs. In 1952, the Plant Board using surplus funds wired the southern part of the city for less than $25,000. Not wishing to operate the cable enterprise, the Plant Board set up Community Service, Inc. as a generally autonomous non-stock, not-for-profit corporation. The 6 man board of Community Service then leased the cable system from the Plant Board and began to operate it. Initially, subscribers were charged $100 for installation and a $3.50 monthly fee. By 1955, Community Service had repaid out of its operating surplus the original capital cost of this southern Frankfort cable installation.

By 1967, the cable system had grown to 60 miles and was importing three channels – two from Louisville and one from Cincinnati. That year, deciding the system was obsolete, a contract was let with Jerrold Electronics to rebuild it at a cost of $3,400 per mile. The Community Service Board borrowed most of these funds from a local bank. It repaid the loan in full on October 20, 1972. In 1972, a further bank loan of $150,000 was negotiated for the construction of 40 new miles which will also be repaid from operating revenues.

Currently, Community Service has 5,500 homes and 300 commercial institutions on the cable who pay $5 for initial installation and $2.50 per month (compared to a national monthly average fee of over $5), plus 20 free hook-ups to schools and other institutions. The service provided consists of 12 over-the-air commercial and educational stations from Louisville, Lexington and Cincinnati plus an unambitious local cable origination from Frankfort that features automated news, stock market and weather reports and a small sprinkling of live programming. The utilization of this local cable channel for community access purposes has not been pushed nor has there been anything like a public clamor demanding it.



CABLE CHANNELS		STATION	CITY	
2	Reserved for	19—WXIX	Cinn.	
3	—	3—WAVE	Lou.	
4	—	32—WLKY	Lou.	
5	—	5—WLW	Cinn.	
6	—	27—WKYT	Lex.	
7	—	18—WLEX	Lex.	
8	—	62—WBLG	Lex.	
9	—	9—WCPO	Cinn.	
10	—	Local	Frankfort	— Monday 8:00 A. M. to Friday 6:00 P. M.
11	—	11—WHAS	Lou.	
12	—	12—WKRC	Cinn.	
13	—	52—WKON	ETV	
10	—	41—WDRB	Lou.	— Friday (On 6:00 P. M.) to Monday (Off 8:00 A. M.)

Community Service Program Guide, Frankfort, Ky.
(October, 1972, reprinted with permission of Community Service Inc.)

The president of Community Service, Ben Fowler, receives $300 per month for running the cable operation while the other five board members are paid $100 monthly. Fowler is a prominent and courtly Frankfort attorney who devotes several hours daily to this task as a kind of public service, in the same spirit as one might chair the Community Chest or serve as president of the Chamber of Commerce. Sales promotion to induce subscriber sign-up is an unnecessary function in Frankfort. If you wish a wide variety of channels received with good fidelity, you hook up on the cable. Community's small staff consists of two in the office and three outside repair men.

Community receives no revenues from leasing channels or advertising. Its roughly $170,000 of income during the latest fiscal year came almost entirely from monthly subscriber charges and installation fees. The major items of expense are $45,000 for amortization of system improvements and $36,000 in wages. Also included is a $4,500 contribution to the Y.M.C.A. building fund. Since Community must pay federal income tax, it has a further incentive not to show a profit. After its new 1972 bank loan has been repaid, rates will be adjusted downward from the present $2.50 level, or more likely the system will again be rebuilt to modernize it by adding more channel capacity and two-way capability.

Consolidated Cable Service, Inc.—The Privately Owned Cable System. In 1952, a typically hard driving entrepreneur, Howard Norell, began constructing a private system in the north end of Frankfort while the publicly owned operation was wiring the south side. Today his company, Consolidated Cable, claims 3,600 subscribers.* Norell states his operations are showing a small profit and that he has no debt, but he has certainly had his share of problems. For instance, Community pays no pole rentals either on the Plant Board's own poles nor those owned by Bell Telephone on which Community strings its cables. Consolidated must pay rent to Bell, but the Plant Board did agree to eliminate the rental payments it had been charging Consolidated for the use of its poles.

Beginning in 1970, the hard pressed Consolidated firm raised its rates from $2.50 to $3.50. At this point there appears to have been numerous complaints from residents of the area objecting to paying $1.00 more than Community subscribers were being charged elsewhere in Frankfort. On this count, and also because the Plant Board reported it was getting static about the poor quality of Consolidated's repair and upkeep service, Community made the momentous decision to "over-build" Norell's cabled section of Frankfort.

In 1971, the invasion of the private company's home turf began after Norell had turned down an offer from the public system to buy him out. Thus the two operators compete for subscribers in portions of Consolidated's territory, though not in any of the areas originally built by Community. This move, of course, forced Norell to reduce his charges back to $2.50 to meet the head-on competition.

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*Total cabled homes in the Frankfort area amount to about 9,100. Some of the cabled homes are outside the city limits, but the entire number of homes in Franklin County including Frankfort is approximately 11,000.

Norell asserts that such extremely low subscriber fees penalized the citizenry by preventing either the public or private operators from building a first class system, a charge denied by Ben Fowler. Norell further complains that Community enjoys an unfair competitive advantage in the area where the systems compete. Through its governmental links with the Frankfort Planning and Zoning Board, he alleges that the municipally owned system learns of building permits and is able to sign up desirable new apartment projects before Norell is even aware that a project is planned.

Howard Norell has brought action, so far unsuccessfully, in both the state and federal courts challenging Community's right to operate a cable system in competition with him. He also enjoys support in NCTA, The cable industry trade association, which bitterly opposes public ownership. NCTA has been on the verge of making a national cause celebre out of Consolidated's plight. Whatever the merits of that cause, cooler heads in the Association have, I believe correctly, decided not to take on Fowler and the track record of this particular publicly owned cable system.

Though Ben Fowler of Community is a Republican, and a supporter of private ownership, he feels that circumstances alter cases. He can point with justifiable pride to the well managed system that has brought Frankfort 12 channels of television fare at such low rates. There is no question in this writer's mind that in a small city lacking over-the-air TV reception where cable is virtually a utility, a municipally owned system operated by community minded and honest management can provide conventional cable services in a manner that is advantageous to the citizenry.

4

The Rules of the Game, Federal Level

The latest Federal ground rules defining cable television service were promulgated February 12, 1972 and amended in some measure in the Commission's "Reconsideration of Report and Order" on July 14. Clarification of many provisions will emerge as the F.C.C. now begins to process its mammoth backlog of over 900 applications for Certificates of Compliance. This summary of the F.C.C. rules is also based on several interviews with Commission staff members including a trip to Washington with legal advisor, David Mann.

A cable television, or CATV system, is defined in Section 76.5 of the February 12 Report and Order as a facility that in whole or in part receives over-the-air radio or television signals and distributes them by cable to subscribing members of the public. Facilities that serve fewer than 50 subscribers or that serve one or more apartment dwellings under common ownership, management or control are excepted. The significance of the definition, in my view, lies in what it excludes. It does not, for instance, purport to cover the kind of cable operation which picks up no over-the-air signals but exclusively delivers movies and other entertainment at an extra charge to apartment complexes and hotels.

As previously noted, the F.C.C. has purposely set up a dual level regulatory structure consisting of Federal regulations within which local governments have freedom to impose other terms and to select the franchisee. There is an admitted ambiguity in the concept "local", since it can pertain to state as well as municipal regulation. Indeed, 5 or 6 states have set up a Cable Authority thereby creating triple jurisdiction. To date Ohio and Kentucky have not acted in the field of cable.*

The F.C.C. Report and Order breaks down television areas by size—with different rules applying in some cases. The regulations summarized here apply to the top 50 television markets of which Cincinnati, Ohio—Newport, Kentucky is the 17th. The market area covered is the territory within two almost coterminous 35 mile circles, one centered approximately in downtown Cincinnati and the other in Newport.

*In Chapter 8 we will take a look at the local regulations affecting CATV in the Greater Cincinnati area.

Broadcast Signal Carriage

The minimum service complement is defined as three full network signals, three commercial independent signals and at least one educational signal.

Presently in the Cincinnati area we have three network TV stations (WLW–Channel 5 NBC, WCPO–Channel 9 CBS, and WKRC–Channel 12 ABC), one commercial independent (WXIX–Channel 19), and two educational independent stations (WCET–Channel 48 and also Channel 54–WCVN, a part of the Kentucky State Educational System which puts out a very weak signal indeed). Carriage on the cable will enable Channels 19, 48 and 54 to be received with the same clarity as the three VHF network stations. All of the above channels must be carried by the local cable system upon the request of the appropriate station (which absolutely will be forthcoming). On the other hand, Channels 2 and 7 in Dayton may not be carried in Cincinnati because they are not "significantly viewed" here by F.C.C. criteria.

As the illustration reveals, there is an overlap in northeastern Hamilton County and in other contiguous Ohio counties between the 35 mile zones of the Cincinnati-Newport and the Dayton-Kettering TV markets. CATV systems in communities located in the overlap area will be permitted the carriage of local TV signals from both markets. In the overlap area, the addition of Dayton Channels 2, 7 and 22 to the Cincinnati stations will add to the attraction of a cable subscription.

35 Mile Zones of the Cincinnati, Ohio–Newport, Ky. and the Dayton-Kettering, Ohio Television Markets.

Distant Signal Importation of Independent Stations. Because areas of our size are entitled to the minimum service complement of three independent television signals and we have only one, our deficit of two permits the cable operator to bring in the signals of two independent stations from out of town. If imported from the top 25 markets where the most attractive independents are generally found, these stations must be located in the nearest two, which are Cleveland and Indianapolis.

To protect local over-the-air broadcasters, a doctrine of "program exclusivity" allows the local station or the copyright owner under certain conditions to notify the cable operator of upcoming duplication (when, for instance, the imported station is playing a show that is currently also being carried by a local station). In this situation the cable operator must block out the offending program but can reach out and retransmit any program then being televised by an independent station and play it to its conclusion. Where the distant station being imported is programming material primarily of local interest in that city, the cable operator may black out that program and substitute another distant signal. Likewise when the distant station is off the air, the cable operator may reach out to import another independent signal from anywhere in the U.S.

While basically only two independent signals may be imported, because of the above exceptions, programing from additional stations may frequently be added. The extent to which this will be economically feasible is not yet clear, but when the inter-city microwave links have been completed, as they will be shortly, there are many fascinating options open to the local cablecaster. If the most probable stations are imported (WTTV-TV, Indianapolis and WUAB-TV Cleveland), the writer estimates that they would or could be blacked out as much as 40 to 50% of the time under the conditions above outlined.

A whole new ball game of *"distant signalmanship"* will become a national pastime with cable operators possibly surpassing Monopoly in popularity, with the difference that the currency is printed in the U.S. mint instead of at Parker Brothers. Generally it is considered that cable operators will seek to import the strongest available independent station with the richest assortment of programming that is not duplicative of what currently is being broadcast over the air in the cable system's home market. Many predict the emergence of special new independent stations whose reason for being is that they will be imported into nearby major markets.

However, the opposite strategy has fascinating possibilities. Under this ploy, the cablecaster seeks out the most redundant distant signal, giving him maximum freedom to capture programs simultaneously being telecast over independent stations anywhere in the country. Moreover, the broadcaster is not without the means to defense this unorthodox attack. If he feels he has more tune-in to lose by an alternate importation than by a duplication of his own programming, he simply fails to notify the cablecaster. The audience then will be treated to a double dose of *I Love Lucy*.

Network Importation. A television area is entitled to three full network signals. At any time that the local network affiliate is not broadcasting the network feed, the cable operator may reach out and import network programming from a nearby

network affiliate station unless another local TV station is carrying it. For instance, WLWT broadcasts its popular *Paul Dixon Show* from 9:00 to 10:30 A.M. and the *50-50 Club* from noon till 1:30 P.M. Channel 3, the NBC affiliate from Huntington, West Virginia could be imported to provide the regular NBC network line-up during these hours if other Cincinnati stations were not picking up the NBC feed. Again, the cost-benefit ratio to the cable operator cannot yet be accurately calculated, but this sort of play does appear economically feasible.

Educational Channels. F.C.C. importation rules for educational channels are purposely more liberal. A cable system "*may carry* the signals of any non-commercial educational stations that are operated by an agency of the state within which the system is located". Depending upon the definition of "agency of the state", the cable operator may be able to import WOSU-TV (Ch. 34) Columbus, the Ohio State University System and WMUB-TV (Ch. 14) from Oxford, Miami University. Additional non-commercial stations may be carried "in the absence of objection filed" by the local or state educational broadcasters. F.C.C. staffers advised us that the local educational station would have to make a very convincing case to prevent the importation of such outside educational channels that the operator wished to bring in.

A quick look at the programming of educational television in this region indicates to me that their importation would not add materially to the selection already available on the two educational stations which the cablecaster will be required to carry (Ch. 48 and 54). This is because all educational channels broadcast substantially similar fare into the classrooms during school hours, and the vast majority of their home tune-in comes from the same Public Broadcasting System shows. But this requires a closer look.

Not much has been written in cable literature about the aggregate effect of the many new educational options provided by CATV on the existing community educational stations. I commend this subject to the attention of the Cincinnati Cable Task Force. (WCET is a valuable and possibly threatened community resource.)

System Capacity, Non-Broadcast Channels

Channel Capacity, Two-Way Service. CATV systems in the top 100 markets are required to provide a minimum of 120 megahertz of band width (equivalent to 20 broadcast channels) plus a built-in non-voice return capability (ie. two-way). The installation of the equipment at the subscriber terminal to activate two-way is not required, but the system must be so built that this capability can be activated in the future without costly rebuilding.

For each broadcast channel, the system operator must provide a non-broadcast channel including three dedicated channels—one each for public access, government and education. In addition, the franchisee must inaugurate a local origination channel. The non-broadcast channels left over after the above four types, must be made available for lease.

Public Access Channel. The F.C.C. has innovated into existence a new kind of service where groups or individuals may broadcast their views on a non-discriminatory, first come first served basis. The only prohibitions are against advertising, lotteries, and obscene material. Beyond this, the cablecaster has no control over the content of the public access channel. Theoretically he may be open to suits for libel or copyright infringement, but in practice no important issues of censorship or operator liability have yet emerged from the first access experience in Manhattan.

The aim of promoting the maximum flow of diverse points of view is furthered by the requirement that the system operator provide free studio facilities. The only allowable charges are for production costs for live presentations of over 5 minutes duration. Even these charges may be waived by the operator, as they are by both Sterling and TelePrompTer in New York City.

Educational Channel. The educational channel must be provided free for the first five years except that production costs are chargeable to the user. The system operator usually voluntarily offers free hook-ups to the schools but is not required by the F.C.C. to do so.

Local Government Channel. The cost basis is the same as for the educational channel. Again, most franchise applicants offer in their bids to provide free hook-ups for City Hall, police and fire departments, hospitals, and other units of local government. The city may not mandate these free connections, but they are generally offered by applicants bidding for the franchise.

Local Origination Channel. Essentially this channel is a new television station, except that its output is sent only through the cable rather than over the air. To prevent the operator from simply carrying automated weather scans, news bulletins and stock market quotations, the F.C.C. requires the franchise holder to originate local programming "to a significant degree". The purpose is to encourage a strong local flavor and involvement with the community. Advertising may be run – but only between programs or at natural breaks.

Leased Channels. Leased channels must be made available on a first come first served, non-discriminatory basis. Censorship of content is not permitted. At least one leased channel must grant priority to part-time users. The franchisee is required to publish a rate card for channel leasing. Though ultimately it is forecast that there will be a strong demand for these channels, it should be noted that only a handful of them are actually currently being leased despite excess capacity in most systems.

Capacity Increases. Where the dedicated channels are overflowing and there exists unused leased channel space, it must be utilized to accommodate the overflow. If all the non-broadcast channels are being continuously used at close to capacity (under a formula laid out in the F.C.C. regulations), the cable operator must activate further channels. This is intended as a built-in safeguard against spectrum scarcity in the non-broadcast segment.

Additional Free Educational and Public Access Channels. Public spirited groups in our cities expect the cable's most beneficent contribution to the community to come through public access and educational programming. Accordingly, many cities have wished to stipulate in their cable franchises that the operator must initially provide more than the F.C.C. requirement of one free channel for each of these services.

The Commission casts a jaundiced eye towards these requests pointing out that if indeed the initial channel capacity proves insufficient, additional space must be provided by the cable operator (but not necessarily free). In private discussions F.C.C. staffers are quick to relate instances of cable franchises which had set aside numerous additional channels for education that invariably lay fallow—nor does the Commission believe that the first public access experience in New York argues the need for more than a single channel for this purpose.

What the F.C.C. is saying to the cities is simply this: "Don't come to us with fond hopes and glittering generalities. Let the community really do its homework first and then present a concrete, well researched and feasible plan the implementation of which requires more going-in channel capacity. Then, we'll listen sympathetically." Thus the Commission has not shut the door entirely, but has placed the monkey on the community's back where it belongs.

Common Carrier Status. The First Amendment dangers inherent in a structure where one party controls both the content and its dissemination may be largely theoretical in the case of cable television, but theoretical dangers to freedom of speech must be taken seriously. Accordingly, many writers on CATV advocate a common carrier status where programming and the distribution system are entirely separate, as is the case with telephone service where the company owns the lines but has no interest in the content of the messages carried thereon.

The F.C.C. has in fact structured cable television on a quasi common carrier basis by its regulations pertaining to the dedicated and leased channels, but it also requires cable systems serving more than 3,500 subscribers to originate their own programming. For now, the Commission believes that the success of cable in the major markets will be advanced if the operator puts together an appealing program schedule on his local origination channel and aggressively markets these and other attractions offered by the system.

On this basis it has rejected the American Civil Liberties Union's brief questioning the local origination requirement and calling for full common carrier status. The best informed guess appears to be that eventually cable systems will be regulated as common carriers, a position that it is rumored will shortly be recommended by the powerful President's Office of Telecommunication Policy.

Some Prerogatives of the Local Authorities

The City's Rate Setting Powers. The F.C.C. has delegated to the local authorities the right to provide in their franchise the amount of the initial installation and basic monthly subscriber fee that the cablecaster may charge. Increases in the fee structure are likewise the prerogative of our City Council. Excluded from rate

regulation, are fees for additional services such as separate per-program or per-channel charges for pay cable, the rates the cablecaster charges for leasing of channels, and for advertising. Likewise the Commission believes it is premature to permit rate of return regulation, as is presently the practice at the state level with our public utilities.

Because the basic subscriber fee now and in the future forms almost all the system's revenues, the F.C.C. is not amenable to extending the city's authority to regulate rates charged for other income sources. In discussions with the F.C.C. staff, they advise that when and if income from other services becomes significant, they expect to review the matter again.

Franchise Fees, The City's Regulatory System. So as not to impose an unreasonable economic burden on the cable operation, the F.C.C. has set a range of 3-5% of gross revenues for franchise fees to cover the regulatory program the city must effect.* Where more than 3% is to be charged, the Commission will approve only on a showing that there will be no material adverse impact on the economic viability of the system and further that the additional percentage is needed to cover the costs of the city's regulatory program. It is contemplated that the city will maintain an office to police the system and provide a procedure for handling service complaints. Some cities propose to help underwrite extensive programming costs of the public access channel and wish to be reimbursed for this subsidy through the franchise fee. It has not yet become clear what activities and costs the F.C.C. will sanction as part of the city's regulatory activities.

The franchise fee applies only to the basic subscriber revenues, and the Commission is going to come under major pressures from municipalities when and if other sources of income become important to the cable system.

Technical Standards. In addition to the requirement of 20 channels and the capability for bi-directional communication, the F.C.C. requires the operator to insure that the cable system does not distribute unauthorized radiation emissions beyond specified limits, even if originating from a subscriber's own TV set. The operator is also required to conduct complete performance tests of the system at least once yearly.

The Commission admits that the technical standards provide only a start. Consequently it has expressly allowed franchising authorities to establish technical standards in excess of the F.C.C. requirements but warns that local authorities, rather than the F.C.C., will have to shoulder the enforcement burden of such stricter standards. We can expect the issuance of many more technical standards covering such fields as two-way transmission, and new television receivers that will be marketed designed especially for cable TV.

Franchise Length and Construction Timetable. In its July, 1972 Reconsideration, the Commission settled the running debate over the proper term of the franchise by

*Counted against the 3% is any lump sum initial payment. The Commission may also impute a value to free services in excess of F.C.C. requirements, such as a second free educational channel.

announcing it has "now set 15 years as the standard to be followed".

To prevent the practice of franchisees taking their time about building a system, the F.C.C. requires a "significant construction figure" for the first year and a "substantial percentage" (20% per year is suggested) thereafter. Cities are explicitly permitted to require more rapid completion. The Commission will not allow a plan to wire up only the affluent sections of the city. The construction timetable must be reasonably equitable throughout the franchise area.

The Franchising Process and the F.C.C. Certificate Of Compliance. The Commission has laid out an explicit process for local franchising. This must include a public invitation for bids, a public hearing and a published document released by the franchising authority. Though the terms must comply with F.C.C. rules and regulations, the Commission has also let it be known that it encourages well thought out experimentation. Thus the franchises of most major cities are expected to include a host of provisions going beyond the Commission's requirements and necessitating F.C.C. waivers. Such departures from the rules should be thoroughly aired in advance with the F.C.C.'s Federal–State/Local group to obtain a reading on the Commission's likely reactions. After all, an F.C.C. Certificate of Compliance is a prerequisite to the commencement of cable service.

The matter of *severability* remains in hot contention between the F.C.C. and the cities. Mr. Schildhause, the chief of the Cable Television Bureau, has asked cities to include a severability clause enabling the F.C.C. to sanctify the franchise when it has struck down certain of its provisions on which waivers were necessary. At its November meetings in Indianapolis, the National League of Cities voted strongly in opposition and urged municipalities instead to insert a clause requiring a reaward process if the F.C.C. makes substantial alterations to the franchise agreement. Certainly this position makes sense!

Assuming that the Commission has the final authority to delete those terms which the city has negotiated with a particular cable entrepreneur that go beyond the F.C.C. regulations, surely it cannot mandate that the city must live with what is left of the contract nor that it stay married to the same franchisee. In all likelihood, the franchise was awarded based on that bidder's offer to provide the very extra services which the Commission has eliminated from the contract. The city must be permitted to take another look and consider, under the new conditions, if it wishes to negotiate a new franchise with a new cable operator.

Sports, Movies and Pay Cable

Sports and movies are the steak and fried chicken of the television menu. Remove them from the menu, and you may as well close up the restaurant. In its February, 1972 Report and Order the F.C.C. permitted cablecasters to serve these entrees with all the trimmings on the local origination channel but severely restricted their availability for pay cable.

The cable entrepreneur is free to bid for any feature film or sporting event, provided no extra subscriber charge is levied for viewing it. In addition to local sporting events that may be picked up and cablecast over the local origination

channel, the distant signal route provides a rich vein to tap for both feature films and sports. In 16 of the top 25 markets there are independent stations now owning the rights to carry home and away games of a great many of the professional major league sports teams located in these cities. Under the distant signal importation rules, cable systems in 28 of the 34 major league sports markets are permitted to import one or more of these 16 independent TV stations.[1]

The pay cable limitations applying to sports and movies in the 1972 F.C.C. regulations essentially carry forward intact the Commission's earlier prohibitions applicable both to STV* and pay cable. These pay cable prohibitions on films and sports are:

- Feature films released in the prior 2 to 10 years may not be cablecast unless the F.C.C. can be shown that there was a bona fide but unsuccessful attempt made to sell the films to over-the-air broadcasters. Only one film that is over 10 years old may be cablecast per month.
- "No series type of program" (such as *All in the Family* or *Marcus Welby*), where there is an interconnected plot and generally the same cast of characters, may be cablecast.
- No sports event which has been televised live in the market during the preceding two years may be cablecast. Thus the Super Bowl, the Masters Golf Tournament and the World Series and all such previously telecast attractions may not be siphoned off free TV. Yet there are gray areas. Apparently sports entrepreneurs may be permitted to phase out certain events and create new but substantially similar ones. Could Monday night NFL football, for example, be removed from free TV to be replaced by Friday night pay cable football (hopefully without Howard Cosell)?
- Not more than 90% of the pay cablecasting program hours shall consist of sports and movies combined.
- No advertising (except spots promoting other pay programs) is permitted.

These latest rules and regulations on the pay cable front represent but another battle in that still continuing very hot war. The big guns keep booming because at stake is the future of television as well as cablevision. The efforts of the Commission to mediate this and other CATV struggles have incidentally been strongly criticized by the Justice Department as "an elaborate scheme of social engineering, of handicapping here, subsidizing there". Instead, Justice urges letting cable compete with broadcasting almost unencumbered by Federal restrictions to let the "people in the marketplace . . . make the choice".[2]

*STV, or over-the-air pay television, of course doesn't exist, although recently the trade press reports an interest in acquiring a license for pay television in several cities. The regulations pertaining to STV are to date the equivalent of the doctor who invented a cure for which there was no disease–except that it provided a valuable laboratory for the development of vaccines for pay cable.

5

Cable Television Experience in the Big Cities, or Checking Out the Immature Butterflies

To try and get a peek into our future, to assess how the various visions of cablevision are making out, I visited in New York City, Akron, Dayton, and Toronto. The first two are among the few cable systems extant in major American cities. There is a great deal to learn from the Dayton story depicting the dynamics of the study and pre-franchising process. Canada is the world's most intensely cabled nation.

Cable Television in Canada

Though CATV started north of the border about the same time as here, it has grown much more rapidly. 30% of Canadian homes are on the cable. Many small towns show cable penetration of over 80%. Vancouver has more than 100,000 wired homes – a greater number than any city in the world. Montreal and Toronto are 30 to 35% cabled.

Though American capital originally played a major role in cable financing, the Canadian Government fearing Yankee domination of the new communications medium in the late 60's, limited foreign ownership to 20% of any cable system. The huge capital demands must therefore be met internally. In turn, this has led to a Canadian policy of dividing cities into numerous franchise areas so that groups with smaller aggregations of capital could get into the cable business. The same trend has been furthered by the desire to prevent cable from becoming a monopoly within a major urban area.

At the heart of Canada's cable surge is the relatively small number of over-the-air broadcast channels serving a particular market. Many cities have but two TV stations they can receive, the CBC (government channel), and an independent channel. The variety of over-the-air signal availability is further reduced by the fact there are virtually no educational or commercial UHF channels, and few TV sets built to receive the UFH band are available so far. Obviously importation of distant signals, and especially the programming of the three U.S. networks, makes a very compelling addition to the Canadian householder's broadcast menu. Just how crucial is the importation of U.S. signals to the economic viability of Canadian

cable television? In reply, Mr. Eugene Fitzgibbons, Vice President and General Manager of Canadian Cable Systems (the second largest MSO in Canada), stated very simply "we'd be out of business if we could not import the signals of U.S. stations".

Because so many "new Canadians" have immigrated since the War, ethnic programming by the local cablecaster provides a further incentive for other families to be wired up. To put this in proper perspective, however, it appears that local origination channels presently command about a 1 to 2% audience share in most Canadian cable markets.

Cable television in Canada has come under the control of the C.R.T.C. (roughly the equivalent of our F.C.C.), but unlike the dual regulatory structure in the U.S., most all of the power in Canada is exercised at the federal level. C.R.T.C. requires a cable system with 5,000 subscribers to provide a local origination channel which roughly combines the roles of our local origination and public access channels. However, the local cable operator may not accept advertising on his station. The channel capacity of most cable systems is smaller than those currently being installed in major U.S. markets.

Mr. Fitzgibbons envisions the growth of two-way communication including home burglar and fire alarms, entertainment over pay cable channels and also the use by business of the two-way capability. Yet within the near future, at least, he feels this is mere frosting on the cake. One obstacle will be the financing of the additional equipment required at each subscriber home terminal.

Cable Television in Toronto. Toronto has reception problems with its own TV stations, and the fidelity of the Buffalo signals from the U.S. is even poorer. The reception problem is not nearly so critical in black and white as on color sets, and it is the color image that is particularly capable of such great fidelity improvement on the cable. Presently only 25% of Toronto's homes have color television (compared to 57% in Cincinnati) and as color penetration increases, so, too, will cable subscriptions.

The largest of Toronto's 10 cable systems is *Metro Cable TV*, a division of Canadian Cable Systems. Metro is 10 years old and with 62,000 homes has around 42% penetration of its area. By an anomaly of Canadian cable regulations, the many independent systems are forbidden live interconnection. The result has been to encourage the demand for interchange of taped shows. Metro is very proud of its recently completed and well equipped production studio (Coldwater Productions) used for program origination on Metro's Channel 10. Metro expects the sale of these tapes to other cable systems, and of filming services to the general market, to become an important income supplement.

Metro, and the other Toronto cable systems, have a 12 channel capacity but must black out two of them due to interference from local TV transmissions. FM music is played on these two channels. Of the 10 remaining channels, 9 are used to carry 4 Toronto, 4 other imported Canadian, and 4 Buffalo stations (some of these 12 signals are carried part-time). Channel 10 is Metro's own station, and like most local origination stations in the U.S. does not program a full broadcast day for lack of

worthwhile material. It is currently moving from an 18 hour to a 25 hour broadcast week.

Channel 10's program for the week of October 9 indicates the typical varied schedule being offered. According to William O. Crampton, Metro's Director of Programming and Public Relations, the best audiences are generally on Thursday night which has become known as "ethnic night". These programs produced by the Province of Ontario are in the native tongue. German and Ukrainian shows will shortly be added.

- *Shalom,* supported by the Zionist organization of Canada, teaches Hebrew and is produced at Metro studios. A most engaging little puppet actually steals the show.
- *Chat* is sponsored by the Canadian Homophile Association of Toronto.
- *Outa Space* is a discussion of rock music by local groups underwritten by a chain of record shops.
- *Univision* is a unitarian church discussion group.
- *Hospital for sick kids* is the award winning show which interviews top pediatricians and other experts in children's medicine, such as Dr. Shandling the great authority on Siamese twins.

A good deal of program material is also provided by the National Film Board of Canada, one of the pioneers in community interest filming.

There have been just enough sporting events on the local cablecaster's channel to indicate that even mediocre sports attractions that are not available over the air will outdraw anything else. According to Bill Crampton, by far the largest audience in Canada's cable history tuned in the Muhammod Ali–Mac Foster heavyweight prizefight from Japan. This ho-hum bout was microwaved by Bell Telephone to all Toronto cable systems. A coincidental audience survey shows that 54% of all cable homes were viewing the fight!

PROGRAM SCHEDULE

TIME	MONDAY, OCT 9	TUESDAY, OCT 10	WEDNESDAY, OCT 11	THURSDAY, OCT 12	FRIDAY, OCT 13
5:00	EDDIE LUTHER SHOW FROM ROGERS 30:00	EDDIE LUTHER SHOW FROM ROGERS 30:00	EDDIE LUTHER SHOW FROM ROGERS 30:00	EDDIE LUTHER SHOW FROM ROGERS 30:00	EDDIE LUTHER SHOW FROM ROGERS 30:00
5:30	COLOR FILM FROM MTPS 30:00	COLOR FILM FROM MTPS 30:00	COLOR FILM FROM MTPS 30:00	COLOR FILM FROM MTPS 30:00	COLOR FILM FROM MTPS 30:00
6:00	*C.H.A.T. Prog. 5 VT 23 METROCOLOR 29:30	*OUT-A-SPACE Prog. 5 VT METROCOLOR 29:30	T.B.A.	*OUT-A-SPACE REPEAT OF TUESDAY METROCOLOR 29:30	T.B.A.
6:30	*SHALOM FROM THE ZIONIST ORGANIZATION OF CANADA REPEAT # 4 METROCOLOR 60:00	CANADA AT WAR Eddie Prog. 5 B&W N.F.B. 27:46	*FIRST TEAM REVIEW Prog. 5 VT 13 METROCOLOR 29:30	FRENCH COLOR FILM FROM N.F.B. 30:00	*FIRST TEAM BOOK REVIEW REPEAT OF WEDNESDAY METROCOLOR 29:30
7:00		*FRONT & CENTRE Prog. 6 VT 33 METROCOLOR 29:30	*SHALOM FROM THE ZIONIST ORGANIZATION OF CANADA	GREEK PROGRAM FROM DEPARTMENT OF CITIZENSHIP 30:00	*HOSPITAL FOR SICK KIDS REPEAT OF MONDAY METROCOLOR 15:00
7:15					COLOR FILM
7:30	*HOS.FOR SICK KIDS Prog. 3 VT 20 METROCOLOR 15:00	*THORNCLIFFE COMM. Prog. 3 VT 7	PROGRAM # 5	PORTUGUESE PROGRAM FROM DEPARTMENT OF CITIZENSHIP 30:00	JESUS CHRIST AND HISTORY Dr. W. RAMSAY
7:45	COLOR FILM	POLITICAL DEBATE GILLIS & KAPLAN	METROCOLOR 60:00		
8:00	*UNIVISION Prog. 1 VT 0 METROCOLOR 29:30	METROCOLOR 60:00	T.B.A.	ITALIAN PROGRAM FROM DEPARTMENT OF CITIZENSHIP 30:00	PROGRAM # 2 B & W 60:50
8:30		BULLSEYE 30:00			
TOTAL HOURS	3 1/2	4	3 1/2	3 1/2	3 1/2

*LOCALLY PRODUCED PROGRAMS IN METROCOLOR

TOTAL HOURS FOR WEEK: 18

Program Schedule, Metro Channel 10, Toronto, Ontario
(October, 1972, reprinted with permission of Metro Cable TV.)

Cable's Rocky Road in Akron, Ohio

Having read glowing reports in the cable literature that Akron, one of the oldest major market franchises in the country was now erecting a 60 channel cable system of the future, I arrived in town in late August, 1972 unprepared for what I found. Akron has had problems.

The franchise was originally awarded in 1965 to Akron Telerama, Inc. which was controlled by a local group. Over the next few years this group attempted to get the F.C.C. to waive its rules restricting the importation of distant signals, but the effort failed. Out of patience and unwilling to commit more funds, Telerama's stockholders sold out in 1969 to TeleVision Communications, which in turn became a part of Cypress Communications, which in turn was acquired by Warner in 1972. Currently, the system goes by the name, Akron CableVision. During the early years of the Akron franchise, the tower and about 15 miles of plant were built. Construction was slowed by labor difficulties including, some say, incidents of outright sabotage.

Progress has also been slowed by knotty technical problems which to some extent represent the penalty paid by all pioneers first attempting to implement the theoretically possible. Akron decided to build one of the very first major dual cable systems which, when fitted with converters in a year or so, will have a capacity of 50 to 60 channels. In the fall of 1972 there were 9 channels on the A cable and 9 on the B. The subscriber's home terminal is equipped with an A-B switch which he flicks to select the desired cable. Akron's cable system also has two head ends which are connected via supertrunk cable. In the last few years the construction and technical problems have been overcome. Since 1969, an impressive 900 miles of cable has been laid, passing over 100,000 homes in Akron, Barberton, Stowe and other contiguous communities.

The initial subscriber fee of $4.75 was raised several years back to $5.95 with the consent of the Akron City Council. This rate increase reportedly aroused public resentment which delayed new subscriber hook-ups and caused some homes on the cable to disconnect. By the fall of 1972, the system counted 18,000 subscribers which represents only about 18% of the homes passed by the cable. Since the beginning, over $12 million has been sunk into the cable plant. CATV in Akron has wallowed in red ink since its inception and does not forecast profitable operations until it has achieved a 40% penetration of homes passed.

To what degree is the low penetration in Akron a result of satisfactory over-the-air reception? The conclusion is that television reception in Akron can be judged fair to good. The television page in the Akron Beacon Journal lists 8 channels (compared to 7 in Cincinnati) of which only the three Cleveland Stations —Channels 3, 5 and 8—are on the VHF band. Of the five UHF stations, only one is located in Akron, the balance are from Cleveland and Youngstown. Thus there are a large variety of stations that can be picked up with a rooftop antenna in most places. However, there are sections where reception is spotty even with an antenna. Comparing the adequacy of over-the-air reception with Cincinnati is not a simple matter, but on balance it is somewhat better here mainly because we enjoy a clearer picture from our network stations which account for most of the tune-in.

Merchandising Plans to Sell Cable Subscriptions. Joel Rund, Akron CableVision's energetic business manager since 1971, provided an interesting insight into the marketing problems encountered in the efforts to sign up subscribers. A substantial sales staff backed with a merchandising plan is a necessity to get cable off the ground in major markets (the president of a sizable MSO estimated the sales cost at $30 per subscriber during the early years).

In Akron the original scheme gave away free installation and free service for one month. A large number of homes signed up, but after the first month 90% disconnected. On the next sales drive, installation was again given free, the subscriber paid the first month's fee and then got the second month free. Lots of people signed up, and this time 50% disconnected. Finally, just the initial installation was provided gratis. No free monthly service was offered, and the $5.95 monthly fee was collected at the door before installation. Though sales were slower, only 15% disconnected and this has proved to be the best of the three campaigns.

Cable Television Programming in Akron. Public access, educational and minority programming has played only a tiny role in Akron cable experience to date, though there are some interesting plans to expand educational programming especially. Minority groups in Akron seem to have evinced comparatively little interest in cable. The demand for alternative programming, public access and the like appears to have been minimal. Likewise the municipality has made little use of the cable system. Akron CableVision has a production studio but has not yet gotten into live program origination.

Besides the 10 television stations carried on the cable (some are duplicated on the A and B cables), Akron cable subscribers can enjoy FM and AM radio, a 24 hour time and weather scan, stock market reports, and free public notices.

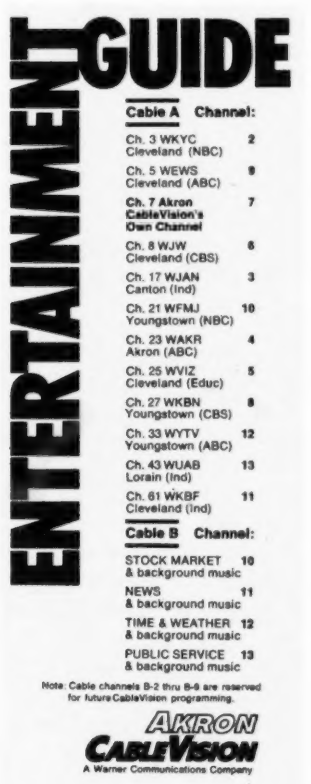
Channel 7, the local origination channel, features news, all night movies starting at 8:00 P.M. (Akron is a 3 shift town), and certain sporting attractions. Joel Rund reports that the best entertainment package acquired by Akron CableVision is the home games of the Cleveland Cavaliers and Barons, the pro-basketball and pro-hockey teams. A coincidental audience survey revealed a 49% tune-in of cable subscribers to some of these games. The acquisition of this package has boosted cable subscriptions. Heavyweight boxing bouts not broadcast over the air have proved popular. Channel 7 also offers a strong schedule of feature films. The tune-in is being promoted with a series of excellently done newspaper ads built around the proposition that the movies are not interrupted by commercials.

The major advertising revenue on the local origination channel is coming from the Cleveland sports package. Commercials also appeared in the boxing cablecast and are sold before and after—but not during—the feature films. Rund, who was originally from the Eastern Seaboard, feels that Akron is a particularly good sports town (aren't they all?).

The Future of CATV in Akron. The president of Akron CableVision is Robert W. Blakemore, an articulate young attorney who is also chairman of the Democratic Party of Summit County. 3 to 5 years out Blakemore does foresee a substantial revenue from leased channels, pay TV, and a variety of two-way services to the

home and business. In the meantime, he has been working to increase the attractions that Akron Cable-Vision can offer its home subscribers. Sometime in early 1973, fairly extensive two-way experiments are planned. Late in 1972, F.C.C. approval was received for the importation of WKBD-TV, a top independent UHF station from Detroit, and CLKW-TV from Windsor, Ontario which is just across the river and sends a strong signal into Detroit. The application to import the educational UHF, WOSU-TV from Columbus, has not yet been cleared.

On December 18, 1972, Akron CableVision announced a channel realignment to accommodate the new distant signal importations and to allocate certain specific channels to be used exclusively for the inauguration of two-way communication.


ENTERTAINMENT GUIDE

Cable A	Channel:
Ch. 3 WKYC Cleveland (NBC)	2
Ch. 5 WEWS Cleveland (ABC)	5
Ch. 7 Akron CableVision's Own Channel	7
Ch. 8 WJW Cleveland (CBS)	8
Ch. 17 WJAN Canton (Ind)	3
Ch. 21 WFMJ Youngstown (NBC)	10
Ch. 23 WAKR Akron (ABC)	4
Ch. 25 WVIZ Cleveland (Educ)	5
Ch. 27 WKBN Youngstown (CBS)	8
Ch. 33 WYTV Youngstown (ABC)	12
Ch. 43 WUAB Lorain (Ind)	13
Ch. 61 WKBF Cleveland (Ind)	11

Cable B	Channel:
STOCK MARKET & background music	10
NEWS & background music	11
TIME & WEATHER & background music	12
PUBLIC SERVICE & background music	13

Note: Cable channels B-2 thru B-6 are reserved for future CableVision programming.

AKRON CABLEVISION
A Warner Communications Company

New Channel Card for Akron CableVision (Effective December 18, 1972). Akron CableVision plans to use channels B-2 through B-6 for upcoming return communication. The imported stations will probably appear on Channels B-7 through B-9. (Reprinted with permission of Akron CableVision.)

The Successful CATV System in Canton, Ohio

Just when you feel capable of making some firm statement in the cable television field, you are assaulted by a new piece of evidence which sends you scurrying back to the drawing board. My conclusions on CATV profitability in the larger markets that were based on a study of Akron, seemed to collapse just 25 miles to the south

where you hit the Canton area. Several years back, Cypress purchased the Canton system for $5.6 million. It has now achieved an approximate 50% penetration of the 32,000 households in its franchise area. Al Miegel, Vice President of Engineering Midwest for Cypress who is based in Dayton, tells me their Canton system is already a good profit maker in strong contrast to their recently acquired Akron operation. Why?

Like Akron, Canton is part of the Cleveland television area. The quality of over-the-air reception is not all that different, although Akronites can pick up the three UHF stations in Youngstown and one of the Cleveland network stations more easily. Nonetheless with a rooftop antenna, Canton area residents can receive 7 to 10, and occasionally even 12, over-the-air channels. Cypress Cable TV of Canton offers its subscribers 12 channels, 10 from northeastern Ohio plus Steubenville, Ohio and Wheeling, West Virginia. Thus the distant signals being imported do not appear to be of the exotic type. None of the educational, municipal and public access, or other narrowcasting fare, has yet made its appearance in Canton.

Al Miegel and Steve Bozzer, the General Manager of Cypress Canton, suggested these answers in response to my questions probing the factors which could account for the dramatic difference in profit performance between Canton and Akron:

- Over-the air reception is somewhat better in Akron.
- The single cable Canton system was far cheaper to build. It did not suffer the technical problems encountered in Akron's more elaborate two-cable setup. There are fewer tuning problems for the home subscriber where all 12 channels are on one band.
- The public image of cable television in Canton is far more affirmative. In Akron the labor problems, delays, and the rate increase have all taken their toll in public goodwill, which has probably slowed subscriber hook-ups.
- In Canton the prestige factor of having your television set cabled – the "I can get more channels and a better picture than you can" syndrome – seems to have developed into a powerful "keeping up with the Jones's" motivation to subscribe.

Still, there seemed to be a large piece missing from the puzzle. A call back to Joel Rund at Akron CableVision for his analysis supplied the missing piece. Cypress Canton, by means of its tall master antenna, was pulling in WTRF-TV Wheeling, West Virginia. This station is not "significantly viewed" in Canton and could not be imported on the cable under the 1972 F.C.C. rules, but the system was "grandfathered" i.e., it had been importing the signal before 1972 which gave it automatic permission under the F.C.C. rules to continue the importation. What is so alluring about WTRF Wheeling? It carries most of the Cleveland Browns home football games that are blacked out on the Cleveland channel – that's what! A call back to Steve Bozzer in Canton confirmed that the ability to view the Browns home games when you hooked-up on the cable has been a major sales tool in achieving the high penetration in Canton.

New York City

Economic Viability, Public Access in Manhattan

No one can do justice to the New York City cable experience in a few pages. Instead of attempting a comprehensive portrait, I shall try to highlight a few important areas.

Background. New York City has a multiplicity of broadcasting channels. But the numerous tall buildings cause the television signals to be reflected which, especially with color, produces severe reception problems in many portions of the city. The improvement of reception forms the basis of the near term service that CATV can provide to householders. Longer range, as the nation's largest city and its financial capital, pay services to homes and a point-to-point institutional network with computer access should be feasible in Manhattan, if anywhere.

The Manhattan cable system is grandfathered, having essentially begun in 1966 when the city gave TelePrompTer and Sterling authority to use the city streets to experiment with cable television. A series of resolutions by the Board of Estimates governed the early development of cable in Manhattan. The mayor appointed an Advisory Task Force on CATV and Telecommunications, with Fred W. Friendly as chairman, whose landmark report appeared in September, 1968.

A formal franchise was granted Sterling for southern Manhattan and TelePrompTer in the northern section of the borough in 1970. These firms were, of course, already operating the cable systems in the areas designated by the franchise. The Manhattan franchises are very comprehensive and portend a number of the concepts the F.C.C. was later to adopt, except that the Manhattan franchises place heavier requirements on the operator than the 1972 F.C.C. Report and Order. Monthly rates under the franchises in effect in 1972 are $5.00 for the first subscriber in a household plus $1.00 extra for a converter at the home terminal (additional outlets in the same house are $1.00 each). The initial installation charge is $9.95. Converters are required to receive the 17 different channels on the cable system.

Office of Telecommunications. This office was established in 1972 to regulate cable in Manhattan and to plan the future systems to be developed in the other boroughs. The director is selected by the mayor but reports to the Board of Estimates, headed by Morris Tarshis. The Office of Telecommunications is undoubtedly the first extensive cable bureau in a large metropolitan area. Its structure and operations deserve to be studied by any major city planning a CATV system.

The director of this office is Herbert S. Dordick, who is perhaps the most impressive man the writer has encountered in the cable field. Dordick is an electrical engineer and systems analyst by training who also worked extensively for the Rand Corp. on CATV matters. Dordick was a member of the President's Task Force on Communications Policy in 1968. He is full of ideas about cable and is partially responsible for public access and other concepts which have been incorporated into the F.C.C.'s structuring of cable television. If his head is

sometimes in the clouds,. his feet never seem to leave the ground, and Dordick certainly has the greatest administrative operating experience as a cable regulator in a major market.

Cable Economics in Manhattan

Richard Galkin, President of Sterling Manhattan, with 55,000 subscribers (second largest system in the U.S.) advises that his company has invested $33 million in its southern Manhattan system of which $20 to $25 million is in hardware. In the fiscal year ended 3-31-72 Sterling lost $3.7 million, and a roughly similar result is projected for the present fiscal year. Losses for TelePrompTer's Manhattan cable operation, with 45,000 subscribers, are reliably reported to be roughly comparable.

Large losses, of course, are to be expected in the early years in any big city cable operation. However, one has the feeling that the light at the end of the tunnel may be receding. New subscriber hook-ups in Manhattan are reputedly coming in at a slower rate than planned. Operating costs, especially for programming, are supposed to be over budget. Dick Galkin characterized the Manhattan cable situation to me as having a "dismal business future without pay TV". He does expect extra revenue a few years off from burglar and fire alarms and home shopping services, but points to the heavy additional investment burden in home terminal equipment as a brake which will slow the arrival of these revenue sources.

As of November, 1972 Sterling Manhattan had around 8 channels available for lease with hardly any prospects knocking at the door. There are, of course, pay cable entrepreneurs who might like to lease such channels at what is apparently the going offer of 10% of the gross. But Dick Galkin and other cable men wonder whether they don't have to keep subscription cable under their own auspices so as to retain a larger share of the take.

The TransWorld–Telco Challenge. In the near future movies are what pay cable is all about, and in Manhattan the most lucrative prospects are the hotels and large apartment complexes. It is precisely here that a dagger has been thrust not only at Sterling's heart, but at the vitals of all big city, franchised CATV systems. TransWorld Productions, a division of Columbia Pictures, is now leasing New York Telephone Company (Telco) coaxial cables to bring pay cable movies into downtown Manhattan hotels and has announced plans to initiate similar service into major apartment houses.

Sterling has brought action before the F.C.C., joined by the City of New York, asking the Commission to make Trans-World–Telco cease. The latter are accused of the crime of "cream skimming"–of ladling off the most profitable cable opportunities without the obligation of assuming the burdens that the city franchise imposes on Sterling. The grandfathered Manhattan franchises do require the franchisees to provide gratis a more costly package of social services, free channels and higher franchise fees than are permitted by the 1972 F.C.C. rules. Herb Dordick agrees with Sterling that both the economies and the equity of the matter require that the city franchised system be protected against the cream skimmers.

Telco has offered what would seem to be a convincing rebuttal. For Telco is a common carrier, and could not lawfully refuse to transmit TransWorld's, or anybody else's, movies down its cables. It points out that the system is entirely within New York state, neither picks up or distributes off-the-air signals and is therefore not engaged in interstate commerce. As a final argument that the Cable Television Bureau of the F.C.C. lacks authority, it can quote Section 76.5 of the 1972 Report and Order which clearly does not include what Telco is doing as a cable television service covered by these regulations.

Sterling Manhattan and the entire cable world await the F.C.C. decision on this plea - a decision which will undoubtedly be appealed to the courts by whomever loses and may also eventually require Congressional action.

The Madison Square Garden Package. Nothing has spurred cable subscriptions like the Madison Square Garden Package. On Sterling's Channel 10, the subscriber may now view the home games of the New York Rangers hockey team and the Knicks basketball club at no extra cost.* These games are generally sold out, and they are not televised over the air. The Madison Square Garden package costs Sterling around $300,000 per year. Besides the benefits of selling new subscriptions, Sterling grosses about $250,000 in advertising revenues from sponsors of this 9 month hockey-basketball package.

For the total year, about $350,000 in advertising revenue was taken in by Sterling's Channel 10. Since advertisers are looking for audience size, the comparative revenues clearly reveal the relative pulling power of sporting attractions in comparison to the totality of Channel 10's programming (which appears to be excellent in both quality and diversity of subject matter).

Public Access in Manhattan

Public access began in New York City in the summer of 1971 and remains the first fullscale showcase for this pioneering concept.

Under the New York franchise, 2 channels have been set aside for public access with the requirement that when the number of total channels expands from the present 17 to 24, as will occur before long, 2 more public access channels must then be activated. Public Access Channel C must be booked in advance, while Channel D is available for last minute users. A complex series of rules attempts to insure that all parties desiring to appear will be able to do so on a non-discriminatory basis. As mentioned earlier, there do not seem to have been any cases of censorship which have arisen in the first year and a half, but because of the operator's liability for copyright and other suits, most tapes are screened by the operators before they are cablecast. To remove the operators from any possible liability and thus to insure complete freedom of expression, many recommend a complete common carrier status be assigned public access channels.

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*It is interesting that this same Knicks-Rangers package is being offered in Long Island, not on the local origination channel, but on a special pay channel where the subscriber is charged a flat, one-time $50.00 fee for the special home converter required to unscramble the channel.

There are presently 4 or 5 existing production studios where groups can go to originate programming, but by sometime in 1973 the franchise requires that 20 such studios conveniently scattered around the borough be in operation. While some modest charges were originally levied, it is my understanding that as of now neither TelePrompTer nor Sterling make any charges for groups using the facilities and appearing on the public access channels. TelePrompTer retains possession of the tapes. Sterling will sell them to a producing group, if it desires.

The Theory of Public Access. "People are pressing and banging their heads against broadcast television saying 'give us more time, give us more access'," explains Ms Thea Sklover who, along with Ms Red Burns, is the co-high priestess of public access.[1] Broadcast television with its scarcity of channels, the argument proceeds, has been unable and perhaps unwilling to grant access except on a limited scope. This is where cable enters the picture with its abundance of channels and its local community orientation. Via public access channels specially set aside in the franchise, CATV can at long last provide access to your TV screen.

However, explain the public access advocates, broadcast television among other influences has made us a nation of passive viewers. We are spectators and not communicators or participants. To become participants, the public must be trained to use the new medium as naturally as it now does the telephone or the typewriter. Happily with the appearance of 1/2" video tape and the Porta-Pak, video production costs have been slashed, and the equipment being lightweight can be carried anywhere.

A number of what have been called "facilitator groups" have emerged in New York to train individuals and organizations in the use of these video tape materials and in the traditional skills of organizing and producing a program for TV. In the beginning a very heavy burden falls on these groups, but eventually it is their hope that the public will become so skilled in the new communications medium that there will be much less need for coaching. Even so, it is widely recognized that for access to be feasible to the largest number of participants, it must remain virtually free of direct charges to the user.

The facilitator groups are headed by dedicated men and women, conscious of their pioneering role and skilled in the communications arts. They are assisted not only by some paid staff, but by a vast volunteer talent pool of cameramen, script writers, professors of communication, and other movie and television production people that can only be assembled in New York. It has been a pleasure talking with the leaders of three of these groups. Howie Gudstadt is the enthusiastic co-director of "Survival Arts". Thea Sklover is the very thoughtful executive director of "Open Channel". "The Alternate Media Center" is headed by the fiery MS Red Burns and by George Stoney, whose extensive filming experience includes a number of productions made in the early 60's in Cincinnati.

Space prevents a thorough description of how each of these groups has gone about its work. The community organizations they have assisted account for a substantial proportion of the 600 separate hours of public access programming during its first year in Manhattan. The subject matter, though extremely diverse, is heavy with local neighborhood, counter-culture and special interest content that

distinguishes it from conventional broadcasting. Here is a sampling, which I think gives the flavor of the public access menu in New York:

- A documentary on housing conditions produced by the West Harlem Community Organization.
- A Christmas show produced by prisoners at Rikers Island.
- Puerto Rican dance theater.
- An interview with Arthur Fisherman on homosexuality.
- A health fare fair in Chinatown.
- A number of programs by *Viet Nam Veterans Against the War.*
- A program by the *Inwood Advocate,* a community newspaper.
- A show by the *Hans Christian Andersen Reading Society.*
- Various programs on art, books and films by the *Museum of Modern Art.*
- A presentation by the *U.S. Bicycle Polo Association.*
- *Black Church Experience,* a taped church service from a black apostalic church.
- *Photography and You.*
- *Designing with Adua* (dressmaking).
- *Exposé,* hosted by Emile Jones.
- *Friends of Hades* (black leaders around the world).
- *Schizophrenia Video Tape.*
- *Now Is the Time* (produced by National Organization of Women).
- *The Tabernacle of Unseen Marvels.*
- *Choices*–a play by Peter Copani.

An Assessment of Public Access in Manhattan. The following tentative conclusions and speculations on its likely future role lean heavily on the first fifteen months of public access experience in Manhattan. Though valid surveys are difficult to come by, it is fair to conclude *that the tune-in has been disappointing.* There seem to be at least 5 explanations for this result, which are presented in descending order of importance.

1. The *subject matter* does not grab most people. The viewing options available in Manhattan on the over-the-air channels adequately cater to what most people want to see most of the time. Of the public access programs themselves, most observers report that the successful shows have been those with an intensely local flavor addressed to problems on a neighborhood level. The philosophic talk shows and other non-local, special interest subject matter appears to have less appeal.

2. The *technical quality* of the public access productions is not generally acceptable. Apparently many viewers have been spoiled by "slick" network standards of production. Even where the subject matter seems interesting, the viewer will flick the dial when the picture is fuzzy, the voice level fluctuates and the pace is sluggish. In New York a re-evaluation of the adequacy of 1/2" video tape is in process. Conclusions are being drawn that the problems of quality production, as well as reception on many TV sets, have not been sufficiently appreciated.

3. There is a *lack of cable penetration* especially in those neighborhoods of Manhattan where much of the present programming might appeal.

4. There have been inadequate *audience development efforts.* Thea Sklover has

come around to the view that public access must adopt and skillfully implement all of the devices utilized by any broadcaster seeking to promote tune-in. "Open Channel" is seeking professional advertising and PR help on a volunteer basis.

There must be local newspaper listings of public access programming (even the New York Times does not print it), promotional spots on the cable's local origination channel, bulletins to subscribers, printed handouts by groups who have taped a program soon to be shown, etc. Such audience exploitation efforts will seem as repugnant to the public access idealist as was the introduction of advertising in the Soviet Union to doctrinaire Marxists, but are essential to the survival chances of this new concept.

5. Those originating the programming must *keep the audience in mind.* In the view of Herbert Dordick and other public access supporters, too much programming has come from individuals who get their kicks by using the equipment "to do their thing". Instead, the producers must try to cover an event or tell a story in a way calculated to hold the audience.

Resource Allocation. No one has tallied up the economic cost of producing 600 different hours of public access programming during its first year in Manhattan. These costs would first include the substantial support of the facilitator groups by foundations, government, corporations, and private individuals. For instance "Open Channel's" budget for this year is $450,000. The Alternate Media Center was originally funded by a $260,000 grant from the Markle Foundation. A major investment is being made in the equipping of the 20 production centers which are in the process of being opened throughout Manhattan. TelePrompTer and Sterling have heavily subsidized the programming cost for public access and, of course, the entire cost for the 2 channels which are used to cablecast these offerings.

Though two channels have been set aside exclusively for public access, and two more channels will shortly be required by the Manhattan franchise, it is impossible to fill even a single channel without a redundancy that by comparison makes the summer television network schedules appear fresh as a new plucked rose. In a study of public access done for the *Fund For The City Of New York* by the *Institute For Public Issues*, the following statement appears "Repeating programs have gotten out of hand in some cases—i.e., up to 10 times a week". This result must inevitably follow when two channels have been set aside exclusively for a full year to carry an amount of unduplicated programming that would fill one ordinary broadcast channel for 6 weeks!

It all boils down to two rather crucial problems. First, public access must generate a lot more appealing, well produced programming. Second, there must be a reasonable tune-in by the groups that the programming was intended to interest. Achieving "access to the medium" is a disappointing accomplishment unless people are viewing. Lacking an audience, there is no communication.

Of all the places for this noble experiment to have been launched, Manhattan would seem to provide optimal chances for success. Nowhere else is there such an abundance of creative experienced programming talent, nor of funding. Nowhere else is there a more heterogeneous audience to play to. It seems likely that public access will find its proper niche at a level where far fewer resources are devoted to

it. Perhaps it should play in a small but crowded off-Broadway house rather than at Shea Stadium.*

Dayton, Ohio

A Turbulent Story of the Pre-Franchising Process

Dayton, which plans to grant cable franchises in late 1973, is about two years ahead of Cincinnati. The fascinating, turbulent story of these two years contain many lessons for us. The cable history of Dayton consists of two separate thrusts–one white, majority establishment and the other black, inner-city. From the beginning they were headed on a collision course and met head-on in 1971 with an enormous bang. Since then, the total community with the help of a prospective franchisee has been trying to put humpty-dumpty together again. Surprisingly and despite the collision, the end product may be a very serviceable one for all concerned.

C.O.G. and the Rand Study

The Miami Valley Council of Governments (C.O.G.) was formed in the late 1960's under state law. Its members are municipalities mainly in Montgomery County, although C.O.G. is permitted to operate in all five counties of the region. It had been involved in planning for joint purchasing among cities and for law enforcement. When the cities of Dayton, Fairborn, and Oakwood were being wooed by prospective cable franchisees Mrs. Bonnie Macaulay, Vice Mayor of Oakwood and Vice President of C.O.G., felt that the Dayton area ought not to be balkanized into a number of unrelated systems. Cable television sounded like a field where metropolitan area planning was essential. Through Bonnie Macaulay, C.O.G. originally became involved in cable planning.

At about the same time, the Kettering Foundation in Dayton was becoming interested in cable TV's potential in the field of education. Kettering was able to persuade the Ford Foundation to join with it to fund jointly an $80,000 Dayton area cable study with each foundation putting up $40,000. Kettering and Ford hired the Rand Foundation of California, who had been involved in extensive early investigation of cable, to conduct the study. In the spring of 1971, the Rand study

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*Public access enthusiasts are forever trumpeting its success in such places as Drumheller Alberta, Cape May, New Jersey and Reading Pa. A check with Earl Haydt of Berks TV Cable Company in Reading, revealed that this successful CATV operation with 28,000 subscribers instituted a community access program in early 1972. Berks went about it the right way by inviting a representative of NYU's "Alternate Media Center" to come to Reading and work for several months there training local groups in the requisite communications skills. Though, as usual with public access, no firm tune-in data is available, Earl Haydt reports good audience "feed-back" and considers community access an important adjunct to CATV service. As in Manhattan, the best received programs have addressed themselves to down to earth neighborhood concerns. Haydt's realistic goal is to originate 1/2 hour daily of community access programming out of a total of 1-1/2 hours of total daily access cablecasting. In no way does he anticipate that public access can properly fill a channel full time.

team consisting of three members from California and one from New York came to Dayton to commence their work. In retrospect, it is apparent they were insufficiently briefed on the sociological and political realities in the Dayton area.

Meanwhile, through the coordinated efforts of community leaders in Dayton, Kettering and elsewhere, C.O.G. agreed to carry the ball in the cable planning field. Its membership voted in favor of a freeze on cable franchising pending the outcome of the Rand study. This agreement was never more than a moral obligation on the part of the municipalities in the Greater Dayton area, since C.O.G. had no legal power to enforce the agreement and keep the fragile alliance glued together if it threatened to come unstuck.

In perceiving that some structure had to be found to plan CATV on a metropolitan basis and in getting the different municipalities to agree to a franchising freeze, the establishment community leadership is to be highly commended. However, their insensitivity to the situation within the inner-core area was abysmal.

Dayton's population is approximately 30% black. As is true in most urban centers including Cincinnati, the black leadership had been plugged into the circle of cable theorizing to a far greater degree than the white. Indeed, one of the early writers on cable television was Charles Tate of Dayton who had gone to the Urban Institute in Washington. Through Tate, the Model Cities educational program, and the writings of other black cable thinkers, the negro community in Dayton had developed great expectations of what cable's coming might do for their economic and social betterment. The black leadership felt that the way cable planning had developed in Dayton amounted to a giant rip-off by banking, data processing, and other business groups who were perceived as ignoring the sociological potential of CATV.

Having finally established political clout in the cities, blacks are inordinately suspicious of regionalism, which they are quick to view as a tricky establishment end-run intended to skirt their new found power base. To many inner-city residents, the C.O.G. play seemed part of such a game plan. It was charged that the minority was scarcely involved or consulted in the moves to place C.O.G. in the cable planning slot or in the selection of Rand (though the mayor of Dayton is a negro), and that C.O.G. was angling to have the municipalities delegate their franchising power to it. C.O.G. represented the worst embodiment of regionalism, because the City of Dayton with the heavy black population had only two votes, while many much smaller predominately white cities had one.

Adding flame to the fires was the charge—incorrectly made by certain members of the minority community—that cable itself would serve only as a giant surveillance system by the white establishment groups over the activities of the core area residents. As portions of the Rand study became known, still another complaint was made involving the economic inequity of a regional cable system charging all of its subscribers a uniform rate. Since cable costs vary according to the household density, under a uniform rate structure residents of the inner-city would, in effect, be subsidizing the suburbs. To make matters worse, no blacks were involved in the Rand study team, although local study committees with black membership were formed to work with Rand.

From this experience, it is obvious that Dayton ordered the study process

backward! First, a representative local committee or task force must be formed, who may later decide to bring in whatever outside expertise they feel is required.

By the time the Rand Commission study was completed and presented in January, 1972, black opposition had crystalized into the statement that no cable television wires would be permitted to be strung in West Dayton unless and until blacks had a major ownership interest in that system. This position was fully accepted throughout the Dayton area as a reality that had to be accommodated, if cable television were to come to the city.

Cypress Cable of Southwest Dayton, Inc.

To solve this impasse, a most ingenuous and pathfinding plan for minority ownership has been evolved in the southwest area of Dayton where blacks are in the majority. Cypress Cable of Southwest Dayton, Inc. (Cypress Southwest) will be equally owned by the large MSO, Cypress Communications Corp. and a new entity, Citizens Cable Corp. Through Citizens Cable, blacks will be given their first opportunity to own and operate a cable system in their own area of a city.

The area covered includes 40,000 homes. The cable system is estimated to cost $2 million. $1 million will be provided by third party loans to be arranged by Cypress Communications. Cypress Communications will also purchase $500,000 of the stock of Cypress Southwest for its 50% ownership interest. Citizens Cable, of course, must also raise $500,000 for its 50% interest. The sources for these funds are a $400,000 loan from Cypress Communications and $100,000 to be received from the sale of its shares to residents of southwest Dayton.

Actually, Citizens Cable will require an additional $50,000 to finance its start-up costs. Accordingly, Citizens will offer 10,000 shares at $15 per share to the black community of southwest Dayton (only one share per household may be purchased). As an inducement to sign up, the local shareholder will be granted a credit of $15 against his cable TV bill.

Until Citizens Cable has repaid its $400,000 loan to Cypress Communications, the latter will elect a majority of the directors of Cypress Southwest. Finally, after Cypress Southwest has repaid its $1 million third party loans, Citizens Cable has the option of purchasing the 1/2 equity interest of Cypress Communications in Cypress Southwest at a price to be determined by independent appraisers. In this manner, the black community has the opportunity of eventually owning all of Cypress Cable of Southwest Dayton, Inc.

Operation. Despite the fact that it is only initially putting up $150,000 of the $2 million financing, Citizens Cable can look forward to achieving from the start the major economic and social benefits sought by the leadership of the black community.

Through its "sole and exclusive" control of the studios and program origination facilities, Citizens Cable expects to develop the kind of programming that will be of special interest to its constituency. It will also be able to sell to the other cable systems in Dayton its programming output that might be of broader interest. Citizens Cable further anticipates that it will serve as a programming source for

cable systems throughout the U.S. who serve an inner-city population. Some even foresee a sort of network of black controlled, innter-city cable companies who buy and sell programming to each other.

Other community economic goals to be achieved are the providing of jobs in the construction of the system, and the comprehensive training in communication skills of residents of southwest Dayton enabling them not simply to staff their own operation but to find employment anywhere in TV, cable, advertising, film making, etc.

The Plans And Prospects for Citizens Cable Corp. The president of Citizens Cable is Dayton born Richard Austin, who became a prominent attorney after studying at Central State, Howard and other universities. Austin has been an aggressive fighter on behalf of inner-city residents and in his words "has had the black experience totally". His qualifications include not only a reputation for integrity but the fact that he has managed to position himself as an independent leader who is not identified with any particular faction in the black community.

Austin, like most black leaders, is outspoken in his preference for providing minority ownership rather than municipal ownership. He foresees job training, economic advancement, retention of entrepreneurial profits and control over programming as major benefits flowing from the structure that has been planned for southwest Dayton. Austin does not trust public ownership to provide the economic benefits or the programming freedom.

Unlike many white intellectuals who advocate a programming line-up they think people ought to watch, Austin and his group have a refreshingly pragmatic approach. They have isolated the community tastes that are not being catered to by TV, and they intend to fill this demand. Their plans for the local origination channel include black produced films, religious programming such as the immensely popular Stanley Henry's spiritual hour which is on WDAO-FM (radio) daily, live originations of rock shows such as those which play the Dayton Palladium, a thorough coverage of all black events from church revivals to community group meetings and social occasions, and high school sports. Of course, the bill of fare will also include job listings, community announcements, health hints and the like.

Considering the above average household density in southwest Dayton, the system will be cheaper than most to construct. I have not examined a pro forma income projection, but would expect that Citizens Cable Corp. certainly ought to be economically viable at a 30% penetration based on subscriber fees and a very small advertising revenue.

Considering the enthusiasm within the community, the appealing merchandising gimmick of permitting the cost of the shares to be applied against the subscriber's cable bill and the exciting programming plans, a 50% penetration after 4 or 5 years is not unlikely. The feeling here is that if granted a franchise, Cypress Cable of Southwest Dayton is going to be a winner!

Some Major Features of the Proposed Cable Franchises in the Dayton Area

The draft franchise and a first public hearing were completed in the fall of 1972, but the timetable calling for franchise awards in January, 1973 won't be met. Pressure for another public hearing is building, and because of the popularity of the Citizens Cable arrangement, neighborhood groups in the predominately white areas of Dayton are now discussing with Cypress the possibility of similar setups in their areas. The most probable alignment appears to be four cable franchises in the Greater Dayton area (including Fairborn which has withdrawn from the C.O.G. pact and is franchising on its own, hopefully in keeping with the general specifications developed in common).

There are some unique ideas among the major points of interest in the proposed Dayton area cable franchise.

- To assure that all of the separate franchise areas interconnect, an Interconnection Company is to be established with a representative from each franchise system. This company is charged with financing, constructing and operating a supertrunk and/or microwave interconnection system. This novel and sensible arrangement will require, and doubtless receive, an F.C.C. waiver.
- Instead of the one channel each dedicated to education, municipal purposes and public access, two each will be specified, of which one series will be regional and carried throughout the entire area, while the cablecasts on the other will be confined within each franchise zone. This, too, requires an F.C.C. waiver.
- The exact number of channels and the configuration of the cable distribution system has not been settled at this writing. It will, however, provide a dual trunk system. With converters, it will be capable of accommodating about 50 forward and 6 reverse channels in the traditional tree-like grid. Alternately, the second cable may be used for a point-to-point net later on, giving 25 or so forward and about 3 reverse channels for household subscribers initially.
- Additional point-to-point dedicated cable networks must be furnished at the request of various named institutions including schools, museums and municipalities. These will not connect to homes of private subscribers.
- Fees in the suburban franchise areas are likely to be higher than those charged subscribers in the City of Dayton.
- Some form of support for public access programming is being sought. This probably will involve an extra (above the standard 3%) payment by the franchisees to the city. The city will then turn over these funds to some organization for allocation to the various groups involved in the access effort.
- A provision in the franchise will permit the city to take over the system at the expiration of the franchise on a basis still being negotiated.

6
The Economics of Major Market Cable Systems and the Demand for Cable Services

The economic viability of a cable system is a function of its investment and operating costs and its revenues. Caterpillar era, small market systems were both relatively inexpensive to construct and were assured of a high percentage penetration. Therefore, they were typically most profitable. As the nation's major urban areas begin to be cabled, we must note that both the cost and the demand parameters have changed in an unfavorable direction. Faced with materially higher costs per cable mile and a potentially lower percentage of homes who will subscribe, the profitability of major metropolitan area operations is at this juncture a big question mark. Citizens in the Greater Cincinnati area should keep in mind that the decisions we make, as we plan for the design and uses of cable television here, can in substantial measure determine its future viability.

Capital Costs for Full One-Way Cable Service

In Chapter 2 we described the technological capabilities and the services that will be rendered by modern big city, one-way systems. About 85 to 90% of the capital costs are associated with the cable distribution network. The head ends, production studios and interconnection facilities need not run over 10 to 15% where the area has at least 25,000 homes. We have chosen to zero in on five factors that are central in the determination of what our Greater Cincinnati area cable plant will cost to construct: household density, percentage of underground cable, elaborateness of the system, degree of overall central planning and the cost of money.

Density. By density, the CATV industry means homes per cable mile. The number of cable miles necessary to wire up a city is slightly less than the number of street miles. The industry considers it generally unprofitable to cable up areas with a density of under 80, except where they are immediately contiguous to more populous zones. The cabling of rural America, if it is attempted, will require enormous subsidization. On the other hand, the biggest cities have an overall density well in excess of 200 homes per mile.

The City of Cincinnati has about 160,000 housing units and about 1,050 street

miles, or a density of around 152. This varies from over 500 in some of the congested central city neighborhoods to well under 100 in certain less settled city sections and in portions of the unincorporated areas. This large range of density will induce a wide variation in cable construction costs within different portions of our metropolitan area, giving rise to knotty problems of rate differentials, as we have seen with Dayton.

Ratio Of Underground Cable. In our size urban area, the costs of laying a mile of coaxial cable including engineering, make-ready, pole preparation, tree trimming, and where necessary tearing up the pavements, are averaging from $7,500–$45,000.* The high figure describes the cabling cost of a typical downtown core area where all utilities, and presumably also the cable lines, are underground. This is the case in Cincinnati in the section bounded by Third Street on the south, Twelfth Street on the north, Central Avenue on the west and I-71 on the east. There is also a small amount of undergrounding in some of our newer subdivisions where cable can probably be laid underground at about $25,000 per mile. Both these undergrounding costs assume that streets must be torn up and new ducts installed. Should there be space in existing ducts, neither step is required and undergrounding may cost very little more than aerial stringing. When future subdivisions are built, and the cable can be plowed in trenches at the same time as other utilities and before streets are in, costs decline to about $10–$12,000 per mile.

Aerial stringing on existing utility poles is generally the most economical method of constructing a cable distribution plant and will come in at around $7,500 per mile. Though telephone company wires are underground in about 40% of Cincinnati's street miles, CG&E has power poles in a good portion of these areas, especially in the older subdivisions (Westwood, Hartwell, Price Hill, College Hill). For Cincinnati itself, the best estimates I can obtain from the City and the utility companies is that all utilities are underground in only about 7 to 10% of the street miles. Outside Cincinnati the percentage of undergrounding is lower still.

If the standard adopted is that cable lines shall be laid underground only where all utilities are also underground, it is probable that the cable distribution system for the city itself will average $10–$12,00 per mile. If on account of ecological values a greater degree of undergrounding is mandated, the cost per cable mile could skyrocket, and depending upon exactly what the requirements are, could add from $5–$12 million dollars to the capital costs required to construct the cable distribution system. We have gone into such niggling cost details here only because the decision which has the most critical impact on the investment required to construct our cable system is the undergrounding policy we adopt.

Interconnection Costs and Area-Wide Planning. Though there are bound to be a number of different systems in the Cincinnati metropolitan region, we assume that it is eminently desirable to interconnect them to the fullest degree. The majority of

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*These figures were furnished by William J. Bresnan, the new president of TelePrompTer, who was kind enough to give me some rough ballpark estimates of various kinds of costs that would be incurred by a Cincinnati cable system.

especially valuable educational, cultural and professional programming fare must originate from the places where these institutions are situated, i.e. from Cincinnati itself. Therefore Cincinnati franchises will automatically be plugged into this potentially rich lode, and the areas that had better be asking questions about interconnection are outside the central city!

Getting a handle on the technology and costs of interconnection is not easy. This is a job the Cincinnati Cable Task Force must tackle in considerable detail with the aid of expert engineering help. In Dayton, it will be recalled that a special Interconnection Company is to be formed to make certain that all systems link up. In New York, Herb Dordick is planning for the expansion of CATV beyond Manhattan. He expects to divide each borough into a number of separate franchise areas. Interconnection of these areas will be mandated and the construction will be coterminous, yet Dordick worries about the problem and expects to require interconnection checks as construction proceeds.

I am indebted to Al Miegel, of Cypress Dayton, for this summary of the problem. The most economical interconnection of local systems is via AML (amplitude modulated link) microwave, although supertrunk cable may also be employed. In microwave interconnection, the head ends of the suburban systems must not be on the far side of a hill blocking them from the master Cincinnati head end. Where interconnection is to be achieved via supertrunk, which is very expensive cable, satellite head ends should be located as close as possible to the master head end to reduce costs and also to achieve the cleanest transmission of the signals. Therefore, whether supertrunk or microwave is employed, considerations of fidelity and costs would dictate that the location of the Cincinnati head end be known before other systems are planned.

Not only that, but the most efficient method of transmitting interconnection signals is by sequenced groups. Thus Channels 2, 4, 7, 10, etc. are transmitted in one bank and in that order. Channel assignment on the different systems should therefore be identical, and the franchises outside the central city must have provided at least as much spectrum space as the central city system is utilizing. Furthermore, it will be extremely annoying for the public if WLW, Channel 5, appears as Channel 5 on the Cincinnati cable system, Channel 6 in Newport and Channel 11 in Norwood.

For these and other reasons, the best results in terms of cost and service are achieved when the entire area is laid out as a whole and optimum locations are provided for master and satellite head ends, interconnection facilities, the routes of main trunk lines and the location of production and local origination studios. Failing to do this, it is again the smaller communities who pay the big penalty in terms of expensive duplication of facilities.

Elaborateness of the System. The fourth major determinate of capital cost is the elaborateness we require–whether a point-to-point network is to be constructed initially, the number of channels, the number of program origination sites, the decision on when to activate two-way, etc. To a certain extent it makes sense to provide beyond the needs of the immediate future, especially when this avoids the harassment of tearing up the streets again. Yet on the whole, the better part of

wisdom is not to overbuild initially. For one thing, the technology is undergoing rapid improvement. For another, the cost of unutilized capacity is borne by the public in the form of increased subscriber charges.

Costs of Money. Not only must the capital costs be bankrolled, but the franchisee must come up with funds to cover his cash flow requirements during the early years when substantial losses are inevitably incurred. In the Rand study for Dayton, the "base case" system serving over 600,000 persons in the Dayton urban area has a negative cumulative cash flow during its first five years.

Advocates of city ownership argue that a municipally owned system can be constructed for less because it will be financed by tax free municipal bonds, presumably at a lower interest rate than the private entrepreneur must pay for his borrowed funds. However, this is not necessarily the case. Cypress Communications, for instance, has recently arranged a substantial long term loan at 1% above prime, a rate of interest lower than that which would probably be required to sell an issue of CATV revenue bonds. Where general obligation bonds backed by the city's full faith and credit can be utilized, the rate of interest declines several points and becomes the cheapest source of debt with which to build a cable system. Even so, it might be cheaper still for a well rated cable entrepreneur to erect a private system, if it is financed on a typical 2 to 1 debt/equity ratio. The Rand models for Dayton are generally financed in this manner and are assumed to pay no dividends during the first 10 years.

Cost Estimates for Full One-Way Cable Television Service in the Greater Cincinnati Area.* It should be clear that no accurate cost estimates can be developed before a detailed engineering study has been conducted based on precise system specifications applied to the exact area or areas to be constructed. Two major studies of this sort completed in 1972 have been alluded to—one by Rand for Dayton and the other by Mitre for Washington, D.C. Though these designs differ in significant respects, both represent types of high quality, sophisticated one-way cable systems with time schedules calling for substantial completion within three to five years. Cost per home ranges from $88 for the city of Dayton to $117 for the Dayton "base case" (Montgomery County plus the city of Fairborn) and $119 for Washington, D.C. On this basis, a City of Cincinnati cable plant constructed to pass all of its approximately 160,000 homes might cost $14—$20 million dollars. This range is also consistent with a quick ballpark estimate of $14—$16 million dollars furnished me by TelePrompTer's President, William J. Bresnan, based on some values I had given him for Cincinnati.

According to the 1970 census of housing, there are about 390,000 homes in the four county area consisting of Hamilton County in Ohio plus Campbell, Kenton

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*As noted in Chapter 2, Mitre estimated for Washinton, D.C. that the capital costs for the SRS and TICCIT two-way systems ran about twice and four times, respectively, the investment required to provide full one-way service. Before we are through, at least some kind of two-way service will be inaugurated. The reader can multiply the costs for full one-way service by some factor which represents his guess as to the extent and timing of such further installations.

and Boone Counties in northern Kentucky. Capital costs to construct a similar quality cable system passing most all of the homes in this four county area are bound to be materially higher because of the far lower population density and might run from $40 – $60 million dollars.*

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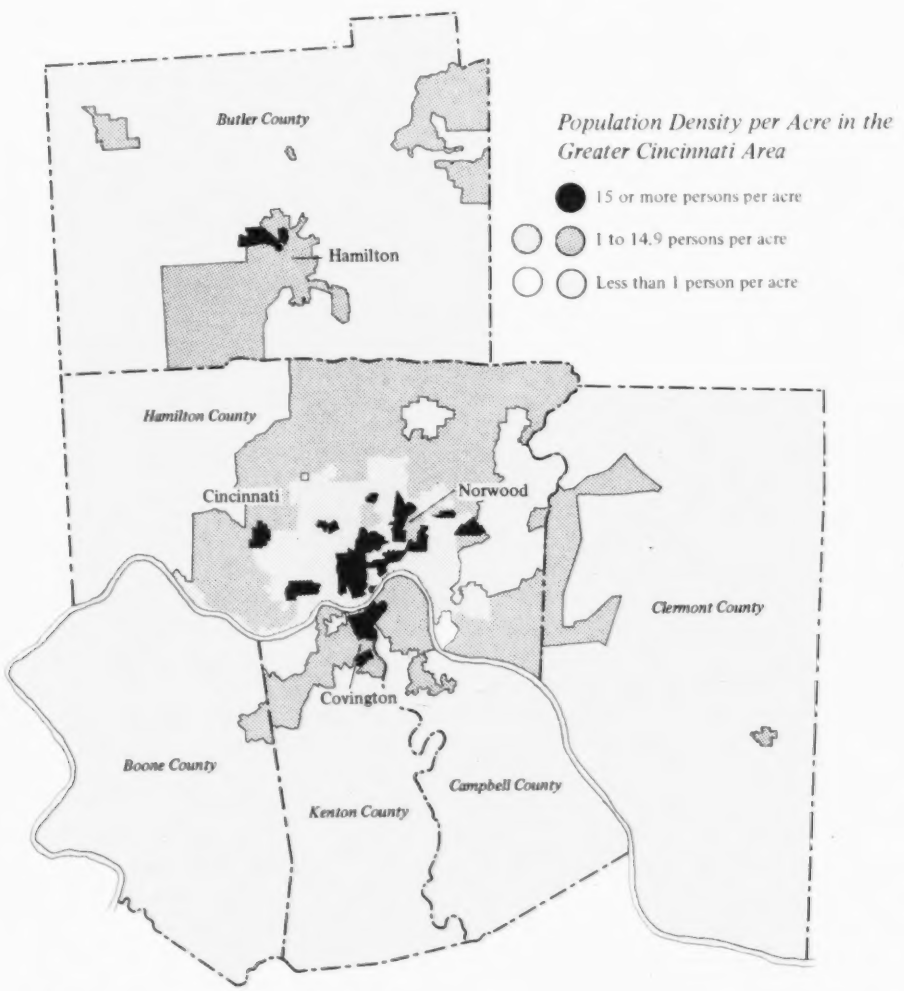
*The Cincinnati Standard Metropolitan Statistical Area (SMSA) also includes Clermont and Clinton Counties in Ohio and Dearborn County in Indiana, having an additional 70,000 homes. Some of these may never be cabled in the near future because of the rural densities.



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Cable Profitability in the Major Markets

We are beginning to witness a boomlet in the production of economic models for big city CATV systems. Such models are most helpful in predicting both capital and operating costs, since there is an abundance of empirical data from which to construct them. Models attempting to predict the percentage of households who will sign up at different monthly fees to receive conventional one-way services, along with those exercises forecasting the extra revenue a cable operator may receive from home subscription pay cable services, are constructed on a far flimsier base. Lacking real-life marketplace experience, consumer interviews and the model builder's personal hunches must be substituted instead. Even less reliable at this point in time, but, equally essential for the prediction of cable's longer range profitability, are the attempts to quantify the future income from business, professional and educational sources.

The Park Model. Probably the best known work endeavoring to predict subscriber penetration was done by Rolla Park under a grant from the Markle Foundation. This elegant 38 page report is entitled "Prospects for Cable in the 100 Largest Markets", where, Park assumes television reception is fairly good. He has, therefore, based his penetration forecasts for these markets on findings derived from the 63 present cable systems which he has identified as operating in areas of good over-the-air reception. The conclusion is that simply offering conventional cable services "of better reception and distant signals" will not be "sufficient to make cable profitable in most of the 100 largest markets". Park believes that cable penetration will be highest where:

- The number of over-the-air signals is lowest.
- The proposition of UHF to VHF signals is highest.
- The percentage penetration of color TV sets is highest.
- The median family income is highest.
- The monthly subscription fee is lowest.

The report varies these parameters, giving expected penetration for the different cases. The main variable Park plays with is the number of network, independent, and educational UHF and VHF broadcasting stations that can be received and the number of distant signals that are imported.

The basic assumptions as to median income and color penetration are very close to the reality existing in the Cincinnati area. None of the models exactly fits our complement of over-the-air signals, but several are close and these show penetrations of around 27%. If so, cable will be in trouble – there being a very strong consensus in the industry that where basic subscriber fees account for nearly all of the system's revenue, 40% penetration is the level required to return a good profit in a major market.

As interesting as his model may be, Park in his preoccupation with the number and kinds of TV signals has omitted the most important determinant of all – *the sort of programming options available only to CATV subscribers!*

Canton's 50% cable penetration occurred where there were 7 to 10 generally receivable television signals, and the cable system imported the seemingly innocuous

Steubenville and Wheeling stations. Only when we discover that, on perhaps 6 or 7 occasions, Wheeling carries the blacked-out Cleveland Browns home games do we explain the 50% penetration. In the early days of UHF when you had to buy a converter to tune them in, the UHF penetration in a market turned on the ability of such stations to obtain attractive programming that was *not* available on VHF channels (WKBD-TV, the Detroit station now being imported into Akron, owes its original success in good part to its purchase of the exclusive rights to broadcast the University of Michigan games when Cazzie Russell was playing basketball there). In Cincinnati, the overall programming expertise of a Fred Ziv, and of a Bill Mason in our Model Cities areas, might make the crucial difference in subscriber penetration.

Were I playing "the game of cablecaster" with Mr. Park, I would be content if he dealt himself a far stronger hand according to all of his own criteria. To clobber him, all I require is a couple of exclusive cable programming cards – especially the one marked "sporting events not available over the air".

Lessons from the Rand Study in Dayton. The Dayton studies are especially interesting because their conclusions are easily applied to the city of Cincinnati, containing approximately twice as many households as the city of Dayton. Further, I am told that the cost data continue to look accurate as Dayton approaches "go".

- The viability of separate systems for the major cities in the area was probed. Aside from Dayton itself, only Kettering with 22,000 homes proved viable. There was no way that Fairborn, with just under 11,000 homes, could on its own afford a modern, full service CATV system. Fairborn is about the size of Norwood and larger than any city in the 7 county Cincinnati SMSA, except Covington, Ky. Covington has around 17,000 homes, or about halfway between Kettering and Fairborn, and the profitability of its own, first class cable system would be in doubt.
- The assumptions for a city of Dayton system were that by year 4 it would achieve its maximum penetration level of 37% based on subscriber fees of $6/month which are the system's only major revenue source. The D/E ratio is 2 to 1 and the interest rate on borrowed funds, 10%. 10 year straight line depreciation is used. Only 5% of the cable plant is laid underground. Dayton's density is 149 homes per mile. Total capital costs come to $7,521,500.

The Dayton cable operation breaks into the black by year 5 and by year 10 is earning almost 14% before taxes. For the full 10 years, cumulative net income is $1,140,900. Thus *if* a 37% penetration can be achieved, a really first rate one-way cable system can cut the mustard in Dayton – and probably also in Cincinnati.

- Another model measures CATV profitability in the larger area of Montgomery County plus Fairborn, the "base case". The population of this region is about two-thirds that of Hamilton County. Capital costs are $22,517,100. All assumptions are kept the same as the above except a 40% maximum penetration is assumed to be achieved in year 5. Essentially because the density outside the city of Dayton is substantially lower and also because operating costs average 64% (9% higher than Dayton), a profit is not shown until year 7. By year 10 profits have risen to only 5-1/2% of system revenues. Cumulative net income for the 10 year period is a whopping negative $7,415,000!

The "base case" does assume a centrally coordinated and constructed group of interconnected franchises–otherwise the economics would be even more dismal. A comparison of the various models presented in the Rand study makes a convincing argument for overall regional planning. It clearly indicates that the smaller cities and the unincorporated areas have the most to gain from this central planning exercise.

Cable Subsystems in the Cincinnati Area. It is time to take a quick look at two systems that have been franchised without waiting for an overall regional plan and another in the Cincinnati Model Cities area which might, following the lead of southwest Dayton, desire to have its own cable television operation. These systems vary greatly in their elaborateness and cost, and perhaps also, in their potential profitability.

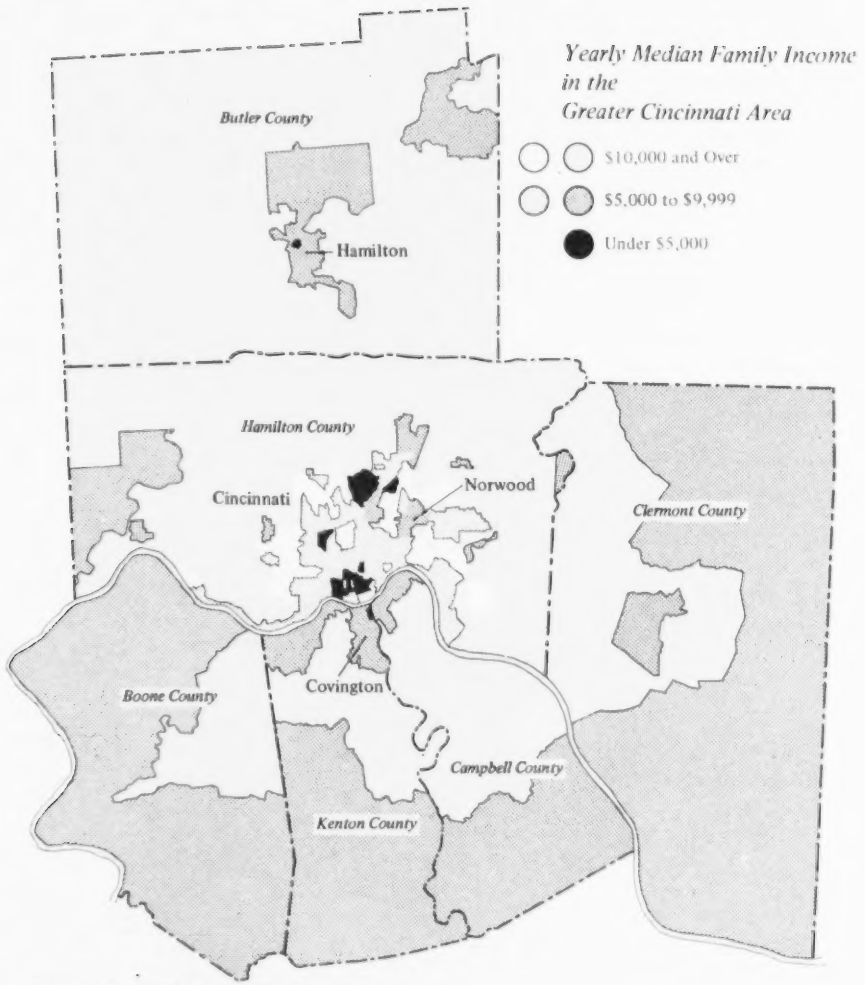
The first group of nearby systems to commence cablecasting are those franchised to Rust Craft, a division of TCI, the large Denver based MSO. These are located in Hamilton, Middletown and Fairfield in Butler County, and Franklin in Warren County. Almost all of the cable is being strung aerially, and in the combined franchise areas there is the healthy total of 50,000 homes. Hamilton and Middletown will start up in February and the other two in April, according to Arthur Armstrong, the TCI District Manager. Almost all of the area is in the overlap zone where both Dayton and Cincinnati signals may be carried. Service to be initially provided includes 10 or 11 over-the-air television channels plus two local origination channels–one in each franchise area and a common "regional" channel cablecasting to subscribers in all 4 franchise areas. Set-top converters will be furnished from the beginning to provide an approximate 30 channel capacity. Subscriber fees have been set at $4.95, and Rust Craft also hopes to receive permission to charge an extra $1/month for the converters.

In Hamilton, Hamilton Cablevision expects to provide rather advanced types of cable service almost from the start, according to Arthur Armstrong. All schools will be hooked up to each other through the central head end. With the aid of return communication, each school will be able to originate and send its own programming to other schools and homes in the franchise area.

We shall probably also see the inauguration of a home surveillance and fire alarm system which the City Council rates as a high priority objective. It is proposed to buy a $27,000 computer and read-out device which will be located in the Fire Department and can scan 8,000 homes in 10 seconds to identify subscriber residences where sensors have activated a fire or burglar alarm, or where the householder has literally pushed a "panic button". Home installation costs are estimated at $500 for the full surveillance service, which is far less than the going market price for home protection packages. Hamilton Cablevision expects also to charge a $2.50 monthly fee to the home subscriber.

Thus it is obvious that cablevision in Hamilton, Ohio is planned to offer a very full menu of services. Apparently the top management of TCI in Denver has concluded that, given the income levels, population density, and construction costs, an operation of this sort can be a profit maker in the city of Hamilton.

Doubtless the honor of being the first cablecaster in our country, will go to Tom



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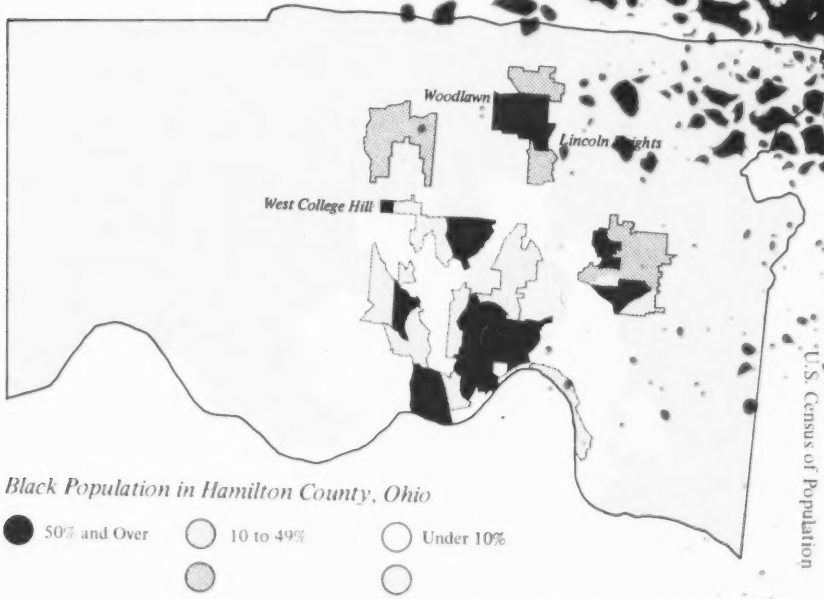
York, an enthusiastic Reading resident with substantial experience in live television programming. York's Cable Television, Inc. is momentarily expecting the issuance of a Certificate of Compliance to hook-up the cities of Reading and Lockland comprising a total of 6,000 homes. Tom York expects to commence operations 60 days thereafter, since he has master antenna facilities available and has made all arrangements for 100% aerial wiring of the 35 or so street miles in his combined franchise territory. A single cable will be strung with an initial 12 channel capacity, that will be expanded later on to 30 channels with installation of home converters.

Reading and Lockland subscribers will be paying $6/month, wh[illegible] proje[illegible] to be average for the more elaborate, full one-way systems we have been describing. These are also far heavier staffed than Cable Television, Inc. (Tom York will keep operating costs to the minimum in what will be essentially a one man show, at least in the beginning). This is not to imply that the fee is too high, but rather to confirm that 6,000 homes does not form a sufficient base over which to allocate capital costs nor to provide the kinds of service being offered by Hamilton Cablevision.

Fred Collopy, who was deeply involved in the MARCC cable studies, has recently been developing cost models for CATV systems. He has examined the potential for a cable franchise in the original Model Cities area of Mt. Auburn, Over-the-Rhine and the West End with a combined total of 19,000 homes. He reports an [illegible] density of 470 homes per mile and has found that in less than 10% of the 41 [illegible] miles are the utilities underground. These factors should combine to produce a very low cost per home in the heavily black Model Cities' census tracts, where there is some interest in obtaining a separate franchise along the lines proposed for southwest Dayton. With proper financing and strong programming, the [illegible] outlook could be favorable.



Black Population in Hamilton County, Ohio

50% and Over 10 to 49% Under 10%

U.S. Census of Population

The Demand for Cable Service in Greater Cincinnati

This subject will be considered in three parts, about which we can speak with decreasing levels of confidence: conventional cable services, pay cable revenues and income from business enterprises.

The Demand for Conventional Cable Services in Cincinnati. Can we assume that 40% of the homes passed by the cable will pay $6/month to receive the full first class complement of one-way cable services (minus pay cable) in Cincinnati?* Our conclusion is that while this level of penetration is possible, it will be quite difficult to attain.

Despite pockets of poor reception where homes are shielded from TV signals by hills, high-rise apartment buildings or are located near the foot of television towers, the overall variety and fidelity of over-the-air reception is good. Cincinnatians are apt to be a conservative lot, and for $72/year the cable package must contain considerably more than better television reception.**

The importation of any two of the allowable distant independent stations does not presently add much spice to our over-the-air diet. Unless the "distant signalmanship" game can be played to the successful conclusion of locating certain sporting events not available on local TV, distant signals will furnish only a modest boost to subscription sales.

Narrowcasting, either on the public access, the local origination channels or on other channels leased by special groups for such purposes, furnishes another attraction that may be ballyhooed in the cablecaster's sales pitch. Readers who have followed the findings to date may join with me in concluding that narrowcasting will not prove a major stimulus to subscriber penetration. This does not mean that a Tom York in Reading, or any skilled cablecaster who really understood the neighborhoods he serves and is determined to provide the kind of intensely local programming missing from broadcasting, may not develop a respectable following for his local origination channel in any section of the Cincinnati area. In the predominately black neighborhoods, I am convinced that this is a very do-able project. Unfortunately for cable's future in Cincinnati, there are virtually no linguistic minorities—which elsewhere furnish the most receptive market for narrowcasting fare.

In truth, it is not narrowcasting in any or all of its forms put together that affords the cablecaster his greatest sales opportunity on the local origination channel. Nothing else could rocket sales into orbit like the carriage of the blacked-out home games of the Cincinnati Bengals, or the new major league hockey club we expect to obtain, and certain other sporting attractions. As we have seen in both Akron and Manhattan, there are also handsome advertising revenues to be earned by cablecasting a good sports package. If someone can tell me that a Cincinnati cablecaster can put such a package together, I can tell you that he will hit his 40% penetration and more!

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*Amos (Bud) Hostetter, President of Continental Cablevision, reviewed with some of us at the Mitre Cable Conference the data developed out of his company's experience indicating that to achieve 15% pretax earnings, for every $100 of capital investment per subscriber, $31.50 of revenue income per subscriber was required. Assuming a cost of $16,500,000 to cable the city of Cincinnati, a 44% penetration at $6/month is necessary. This is remarkably close to other penetration–profit estimates for major markets.

**The carriage of Dayton signals on the cable, which is prohibited in Cincinnati and Northern Kentucky but permitted in certain portions of Hamilton County and various other sections of the SMSA, should add 3 to 5% additional penetration.

Pay Cable Revenues from Home Subscribers. If for profitable operation, a major market CATV operator requires 40% of the homes passed to pay a $6/month subscriber charge, he can also do nicely with a lesser number of subscribers, many of whom are purchasing pay cable services to the tune of an extra $10–$15 monthly. Yet we must not be too quick to add these revenues to the cablecaster's bottom line. He is required to lease channels on a non-discriminatory basis, and it could turn out that the lion's share of pay cable revenue will end up in the pockets of the entertainment entrepreneurs leasing channels for subscription cable purposes.

The struggle continues on in CATV's two front pay cable war. We shall pay a final visit to both the Telco and the broadcaster battlefronts in the next chapter. If I knew that the cable industry was about to achieve a decisive victory against both foes, I would not hesitate to predict that the terms of surrender would enable the winners to live profitably ever after—even in the major markets!

Cable Income from Business Enterprises. My crystal ball became especially foggy when asked to reveal cable's prospects in this area. For what it is worth, it would seem likely that banks and other financial institutions will become the first important business users of cable services. Such uses will include digital data transmission and stop-frame pictures, as well as traditional television video. Multi-location concerns, not necessarily in in the field of finance, may be the next in line as important cable users. A return capability and a point-to-point network seem prerequisite to important exploitation of the business market. Major business utilization will doubtless first occur in the largest urban areas and not until later in the Cincinnati's of the land.

The Demand for Educational and Health Care Delivery Services on the Cable

The eventual allocation of multiple channels for educational and medical purposes is confidently predicted by many cable writers. I would like to share this optimism, in part because there now exists in Cincinnati two closed circuit cable installations providing dramatically effective service delivery in these fields.

However in our present framework of the demand for cable services, our definition of that word is the economist's and not the social planner's—i.e., there is no demand unless there are buyers willing to purchase the output at prices which at least cover the cost of production. Unlike the demands for cable service heretofore discussed, it is apparent especially for educational services, that users will require public funding on some basis before they can exert effective demand. The extent, therefore, to which cable channels are allocated for these purposes is a function of a community's priorities, rather than the buying decisions of homes and businesses.

Health Care Delivery. The University of Cincinnati Medical Center is located at Eden Avenue, and its Department of Biomedical Communications is headed by Dr. Gunter Grupp, who is also a member of the Cincinnati Cable Task Force. Its coaxial cable system is four years old and was mostly self-constructed for the shoestring

cost of under $300,000. The Medical Center with its origination facilities is connected, in what Dr. Grupp refers to as an intramural system, via two-way cable to five nearby hospitals, two colleges (Nursing and Health, and Medicine) and three institutions (Environmental Health, Human Development and Mental Retardation). The facilities are utilized two-thirds for medical and nursing student training and one-third for continuing professional education which is conducted in the hospitals on a group basis.

Illustrative of the medical training, is the capability of connecting any patient bed in the General Hospital with a medical school classroom. Employing its full complement of two-way video faculties and additional audio-only loop, the patients on camera may be brought into the classroom while a separate presenter may explain the symptoms. Through fluoroscopy, living X-rays of the patient may also be transmitted from the hospital. Slides and other audio-video material relevant to the subject under study might next be transmitted into the classroom from the Medical Center origination studios. The capabilities of this two-way closed circuit cable system materially enhance the quality of medical education and permit large numbers of students to receive certain kinds of instruction simultaneously.

The extramural extension of the Medical Center is accomplished, not by cable, but by signals transmitted to 11 additional hospitals in Hamilton County and N. Kentucky over a high frequency band width, from an antenna atop General Hospital. The extramural system broadcasts television pictures about 15 hours a week to these hospitals, but the return feed is audio only and is therefore considerably less useful than the interactive two-way cable facility.

Dr. Grupp dreams of the day when, through abundant two-way cable channels, these hospitals plus many other institutions and households, too, will be hooked-up into an areawide health care delivery network. One such leased channel into the home could provide continuing education for physicians, nurses, hospital administrators, other paramedical personnel and even certain kinds of patients. For instance, every other Thursday from 2:00 to 2:30 medical advice addressed to diabetics might be cablecast. A two-way channel on a point-to-point net might connect schools, factories and major office buildings with the Medical Center. Emergency cases could be viewed by physicians standing by at the Medical Center, who would provide instant telediagnosis and treatment advice to the company or school nurse to administer. The personnel at the Medical Center might also arrange for immediate ambulance dispatch and hospitalization of the patient, where required. All those involved in public health care delivery have a deep obligation to learn what cable can do to accomplish their goals.

The extensive use of cable television by private clinics or small groups of physicians is something I feel certain is going to happen. No group has a greater need for continuing education, or emergency two-way audio-video communication with patients, hospitals and sources of learning. And as a group, doctors will pay for what they require!

Educational Services on the Cable. The single, free educational channel which the cablecaster must provide ought to prove hopelessly inadequate to deliver the spectrum of educational originations directed to students from pre-school through

golden agers. How, and by whom, the time on the free channel will be allocated, is an interesting short-run cable question.

In the handsome new Norwood (Ohio) Senior High building are housed the studios of a 6 channel closed circuit cable network, 5 miles in length. Hooked up are 10 public and parochial schools in this city of 30,000 dropped in the midst of Cincinnati. Ken Noakes, the Chief Engineer of the Norwood Media Center who has also been with the project since its inception, explains that it got its start in 1965 with a remedial reading program funded by Title One monies, but now is supported by the public and parochial schools themselves. Two of the channels carry the educational broadcasts from WCET, Cincinnati and WCVN, Covington. These are frequently duplicative, but the latter broadcasts Kentucky history which is appealing to Norwood's large Appalachian population. The other four channels cablecast selections from the Media Center's extensive tape library of 600 titles, which has been assembled in an eclectic fashion and even includes materials taped off the air, such as the Jacques Costeau specials. Some use of the facilities for student productions has also been made.

The 450 teachers in the Norwood school system book programs in advance and display them on 23" television receivers that are wheeled from room to room. Among the benefits is the saving in classroom time. An 11 minute film over the cable might take a half an hour if shown on a film projector, by the time it was threaded, the room darkened, the film rewound, etc. Over 12,000 programs are being cablecast in a school year, averaging from 2% (in the primary grades) to 6% (in the elementary grades) of total instructional time.

The Cincinnati Public School System has assigned Joseph Lamping, Director of Resource Services to plan for possible utilization of cable instruction in the city's schools. (The Board of Education is represented on the Cincinnati Cable Task Force by Mrs. Janet Duff, its Vice President). In the mid 1950's, the Cincinnati School System inaugurated an instructional television program (ITV) in conjunction with WCET and originally provided 90% of the funding. This program has taken many interesting forms over the years, but its usage by the Cincinnati Public Schools has never recovered from the defeat of the 1966 school levy. Now, only 13,000 of 58,000 children in Cincinnati's public schools from kindergarten through grade 8 receive ITV, although 23 other area school systems enjoy this service. The monies paid in by the various school systems, along with state funds, have enabled WCET's ITV program to be self-supporting.

WCET, the first F.C.C. licensed educational channel in the country, has had long experience in the production and broadcasting of educational materials. Its ITV operation with a $205,000 budget is a department separate from the balance of its broadcasting activities. Charles Vaughn, who has headed the station since 1966, asserts that one of its principal goals is to set itself up as the major community-wide media center. As part of this role, WCET could serve as perhaps the largest cable production facility for educational and public access originations.

The 1970 TV Summer School experiment, which WCET ran in cooperation with the Cincinnati Public School System, illustrates one kind of educational programming that might be adapted to the cable. In this experiment, over 1,000 students who had failed 7th and 8th grade courses received instructions over WCET at home

or at special viewing centers. Eight teachers delivered the TV Summer School instruction and were available at the WCET studios during certain hours to answer questions phoned in by the pupils. Teachers were assisted in their visual presentations by the WCET staff, by graduate students from the University of Cincinnati Media Center and by Mr. Lamping's group from the public school system. Judging by the percentage of students who passed and also by the quality of their work during the following school year, the TV Summer School compared favorably with results normally achieved by conventional summer school programs. Furthermore, educational instruction of this sort may possibly be delivered over the cable at a lower cost than certain kinds of conventional schooling once the schools and most homes are hooked up.

In the case of collegiate and continuing adult education, the magic cable words are "the open university", which is also referred to as "the university without walls". A very exciting precedent for such programs is furnished from the United Kingdom, where three years ago the "British University of the Air" was established. Now, 40,000 part-time students pay $20 a year, per course. Supplemental instruction is received over both BBC radio and television during prime time, though essentially the primary material is delivered through the mail. After a year, the student is put in touch with an advisor and other close-by students working in the same subject area, and group meetings then become a part of the curriculum.

Purdue University is planning to inaugurate its "university of the cable" by offering 8 courses for full credit over the CATV system in Lafayette, Indiana. Warren Bennis, the President of the University of Cincinnati, is enormously interested in utilizing cable television to inaugurate a "university without walls" curriculum at the University of Cincinnati. This is in keeping with Bennis's strong conviction that U.C. must play an even more meaningful role throughout the community it serves. Dr. H. David Lipsich, Vice Provost for Undergraduate Studies, is Chairman of the "Task Force on Continuing Education" and is therefore involved in developing the university's cable TV policy, along with Drs. Fransecky, Barrow and Purdy. Dr. Lipsich contemplates utilizing the facilities of WCET, the College Conservatory of Music and the U.C. Media Center. For, he is very much aware that U.C. professors will have to perfect new techniques of teaching over the cable to communicate instructional material effectively and to hold their students' attention.

The curriculum to be developed can bring continuing education to blue collar workers, housewives who can't leave home, and a host of others who for various practical and psychological reasons can't or won't come to the campus. Nor is the concept limited to home cable viewing. Programming directed to various men and women, which they might view on the job during the working day, is also being considered.

Such possibilities as these have been presented to indicate how fruitful might be the marriage of education with the cable. Yet two nagging doubts becloud this happy vision of coaxial bliss. Will the educational boards and institutions really produce first rate, saleable plans in time? Even if they do, where is the money coming from?

7
Cablevision versus Television

There are a number of pivotal issues, the resolution of which will substantially determine the future shape of video communications in the United States. Among these are the questions of the equitable allocation of the cable spectrum, access to the medium, television advertising, broadcasting profits, the Telco threat and that Verdun of the cablevision vs television conflict—sports, movies and pay cable. Taken as a group, these interrelated subjects are as fascinating as they are complex. Their analysis demands a clear head and requires that we avoid imbibing the competing brands of snake oil being distilled in the board rooms of the financial interests and in the cellars of academia.

The Equitable Allocation of Channel Space on the Cable

It is widely asserted that since commercial television is advertising supported, the advertisers and the networks, rather than the viewing public, determine the kind of programming that is broadcast. This batch of academic snake oil should be recalled from the shelves. For it is the carefully and continuously measured audience tune-in, that determines what programming networks will offer and what shows advertisers will decide to sponsor.

If the competitive rate that advertisers are willing to pay is a certain amount per thousand viewers, the broadcaster can maximize his revenues only by maximizing his audience. In a situation where the supply of broadcast time (channel capacity) is fixed and relatively scarce, these forces produce a result where only those kinds of shows which are predicted to attract sizable audience segments (on which the spots can command top dollar) tend to get programmed. This is an optimal system of resource allocation under conditions of scarcity and deserves to be praised rather than panned! It is, of course, also an over-simplification because there is a generous quantity of "good" programs televised in a major market each week. By no means are all of them aired over the educational channels, despite the fact that by and large such quality shows do not command large audience shares.

The Allocation of Channel Space Devoted to Narrowcasting and Public Access. With cablevision, "the television of abundance", we explode the channel spectrum and the increased supply now permits programming to all sorts of minority tastes. This has correctly been hailed as a major advance. A truly democratic society must provide not only majority rule (commercial television) but also strong minority representation (cable television). But the vision that cablevision has released us from the audience imperative–the necessity to please the viewing public–is engendered by the fumes from the snake oil. Channel space and program origination have a cost, and the space has alternate uses. True, there is suddenly enough of it to produce programming to beekeepers, Lithuanian-Americans, and chamber music lovers. *But we must still require that a reasonable proportion of each audience segment tunes into the programming targeted its way.* Consumer preferences must substantially dictate the allocation of programming fare, whether there are 5 television channels or 25 cable channels.

Furthermore, narrowcasting and public access promoters are about to acquire that measure of insight which comes to salesmen of general merchandise after several swings around the territory. Any good rookie salesman feels that every article in his sample case is just what the public wants. He bangs on the store buyer's desk demanding that his articles be "granted access" to the public by means of displays on the shelves of the buyer's store. However, he may frequently find upon his return the next season that of the six dozen widgets he sold the store, only one has moved off the shelves. Now it is the buyer's turn to bang on the desk and demand what might be called "reverse access"–that the salesman take his widgets back. The narrowcaster's sample case seems crammed with such widgets, and he will

A Jug of Snake Oil Being Distilled by the Batch Process in the Cellars of Academia

find that gaining access is only half the battle! His products will also have to please, not the mass audience, but the segments they were directed to, or they must also be removed from the shelves.

Thus it appears that the rather cynical vision of the old media buyer described in Chapter 1 is a more accurate depiction of the future than the social theorist's. The noble dreams of the latter may be almost entirely shattered on the rocks of the viewing imperative, unless rescued by the imposition of an additional criterion. The values which comprise this new criterion are those derived from the benefits of participation (of production of the program) rather than, like the audience imperative, from measures of its consumption. Efforts which bring people into the lives of their community to create and cablecast an access show, to meet with neighbors to solve a common problem, to understand viewpoints formerly alien to them—these are perhaps the major benefits that may be achieved by the community access experience. They have to do with gaining a sense of participation, of making the community a better place to live, and they are worth a great price in an urban environment. The basis for narrowcasting and public access spectrum allocation on the cable must therefore be made by some proper mixture of the rights of the public to have the resources used in accordance with their viewing preferences and the participatory benefits which start with the users of the facilities. Through them and a very small audience, the impact of participatory benefits can spread and multiply to bring about a significant amelioration of the quality of life in a neighborhood, or in an entire city.*

The Allocation of Channels for Pay Cable Purposes. It is from the viewpoint of consumer sovereignty that the strongest case can be made for subscription cable. The artillery directed at the practice of extra per-program or per-channel charges is not aimed at its potential business uses, nor at such home subscriber pay services as meter reading or special educational programming. The flak is drawn only by suggestions that home subscribers may be willing to spend their own hard earned cash to watch big box office events on a pay channel. If some members of the viewing public prefer to pay extra to watch feature films uncluttered by commercials on the pay channel, rather than over commercial television or by making a trip to the movie theater, why shouldn't they? If enough football fans would rather pay extra to view the games at home rather than going to the stadium, why should some regulations forbid this practice? In short, should not the spectrum be allocated between free and pay cable according to the public preferences, just as viewing tastes on the whole ought to determine programming fare? On the supply side of the ledger, the CATV forces argue convincingly that pay cable will stimulate creative expression by giving it a big new market to supplement what is produced for commercial and public broadcasting, movie houses and legitimate theater. It is, after all, rather meaningless for viewing preferences to allocate what is programmed if the choice offered the public is limited. Conversely, anything that enlarges the

*For this process to work, the audience must make up in intensity what it lacks in size. Without audience "feed-back", the programmers become discouraged, and their ideas do not germinate into community action.

quantity and diversity of the menu helps insure that every viewer will come away from the table better satisfied.

The Telco Case and Other Threats

As we go to press, the F.C.C. has not as yet acted on the Sterling Manhattan–City of New York plea to make Telco cease and desist its carriage of TransWorld pay movies over telephone company cables in Manhattan. When he was in Cincinnati in the fall of this year, I asked Sol Schildhause, who heads the F.C.C.'s Cable Television Bureau, what he would do if the Commission held for Telco. His reply was, "back to the drawing board". That is, the Commission has sought to carve up the communications field between commercial television, telephone and telegraph, cable television and other media, assigning responsibilities and defining the home turf of each. If the telephone company and others can compete with CATV for pay cable service to the lucrative hotel and apartment house market, perhaps it is unfair to place costly social burdens exclusively on the backs of locally franchised CATV systems, as the Commission has done.

The National Cable Television Association obviously concurs. In a recent filing with the F.C.C., N.C.T.A. has requested that all non-broadcast methods of providing subscription programming be treated on the same basis. These include, in addition to the Telco model, private microwave facilities, multi-distribution service (MDS) and subscription television by broadcast stations themselves.

Down the road, there are engineers and scientists who forecast that cable itself will be obsolete. The Bell Laboratories are actively working on fiber optics which has a far greater carrying capacity than coaxial cable. Recently predictions have begun to appear that laser beams, with a larger capacity yet, will be the communications wave of the future. It is now feasible to transmit an image via satellite directly into the home, thus obviating the need for a local station of any kind. The present problem derives from the expense of the equipment necessary to be installed at the home to make the image appear on one's television set. This would seem to be the sort of problem that engineering science is going to solve in the not too distant future. If that occurs, cablecasters and broadcasters will, for the first time, find themselves in bed together.

A different sort of threat to cable television is the potential impact of video cassettes which have begun to be vigorously promoted in the second half of 1972. This industry was predicted to be the wave of the future a few years back but ran afoul of various problems, especially the incompatability of the tapes produced by the various makers. Video record and play-back devices will surely be used as an adjunct to CATV, but for certain school and institutional uses especially, they may also pose a competitive challenge.

A Return to the Battlefront, N.C.T.A. Versus MST

The Power Struggle Over Sports, Movies and Pay Cable. The Maximum Service Telecasters (MST) is a powerful, articulate association of local broadcasters existing alongside the larger and more broadly based National Association of Broadcasters

(NAB), which is the major industry trade association. On cable television matters, MST plays the tough guy Agnew to the more statesmanlike Nixon role of NAB. A very high official of the F.C.C. made the statement to me that he credits MST with setting back the development of cable by 5 years.

The National Cable Television Association and its members became for a time the major national distributors for the snake oil distilled by the social theorists. Two claims on the label explain the usefullness of these spirits to the cable industry. The first proclaimed that CATV was the cure for all social ills and was helpful in persuading City Councils they had not a minute to lose in granting a cable franchise. The second suggested cablevision as an antidote for the agonies of commercial television—a positioning of the brand that commended it to "concerned" citizens and liberal law makers everywhere.

Despite the anti-television claims, the Maximum Service Telecasters were bright enough to encourage this bottling and distribution arrangement and may even have granted it an arcane subsidy. MST spokesmen genially portrayed the socially useful role CATV could perform by cablecasting high quality, special interest fare appealing to all sorts of minority tastes—a function which MST freely admitted commercial broadcasting could not perform. MST saved its energies for more important contests. When it came to sports and movies, either on the cablecaster's local origination channel or on a leased pay channel, MST showed its teeth and growled savagely over the threatened invasion of what it considers its home turf.

At length, the cable industry began to understand that it had been hoist on its own petard. "We have oversold many educators, minority groups and civic leaders. Now they are starting to believe us and we don't know what to do" admitted Marc B. Nathanson, Director of Corporate Development of Cypress Communications Corp. in the August, 1972 issue of *TV Communications magazine*. What the cable industry did decide to do, was abruptly to reverse course and argue that unless cable could have its share of the mass audience goodies, it wouldn't be able to cut the mustard in major markets and so would be unable to deliver cable's potential social benefits. Certainly this new position is greatly more realistic than the old.

Now before the F.C.C., are a number of dockets containing proposed amendments to its February, 1972 Cable Television Report and Order and its July Reconsideration in the crucial areas of sports, movies, subscription cable. The filing of the two rival trade associations on these survival issues are as far apart as Charles Keating and Allen Ginzberg. Washington observers predict that the Commission will shortly join these topics together into a new landmark set of cable regulations.

Pay Cablecasting. N.C.T.A. in its filings before the Commission alleges that the plethora of restrictions on subscription cable are unnecessary and serve no public purpose. Beyond that, the F.C.C. is politely told that on a number of counts it has already overstepped its authority in promulgating the present regulations.

N.C.T.A. lets fly with all barrels, utilizing many of the arguments we have alluded to, including the economic necessity of pay cablecasting for the industry to penetrate the major markets and deliver the social benefits the F.C.C. expects CATV to furnish. N.C.T.A. also maintains the F.C.C. restrictions violate the cablecaster's first amendment rights, deprive the public of alternate programming

options, and violate the anti-trust laws by preserving the monopolistic position of the networks and protecting the movie and sports industries. In an interesting discussion of spectrum scarcity, N.C.T.A. argues that the anti-siphoning rules which may have been in the public interest when applied to television with its scarcity of broadcast channels, should not be carried over to cable with its theoretically unlimited channel capacity.

Separately, in a joint pleading by Time-Life and Sterling, the Commission was asked very simply to declare a 5 year moratorium on all its anti-siphoning restrictions, leaving CATV systems free to negotiate for, acquire, and cablecast any and all kinds of programming.

MST praises the anti-siphoning laws but calls for even tougher ones, raising the specter that eventually pay cable will be able to outbid advertising supported television for big box office attractions with very detrimental consequences for the viewing public. Not content with the Commission's regulatory dichotomy between pay cable and regular cable programming, MST demands that all restrictions, present and future, be applied to both. If this thrust at cable's jugular were to succeed, most feature films and sporting attractions would disappear from the local origination channel and with them CATV's future hopes for penetrating the major markets. MST's contention that the pay/non-pay dichotomy is a distinction without a difference has merit. The very same Madison Square Garden basketball-hockey package carried in Manhattan on the local origination channel and used to boost subscriber sign-up and garner advertising revenues, is offered on a pay basis in Long Island. MST pleads to ban that package and N.C.T.A. to permit it in both situations.

Sports on the Cable. On the sports front, black clouds hang over the cable industry both at the F.C.C. and in Congress. The F.C.C. issued a proposed Rule Making in February, 1972 with the intent of protecting the home gate of professional sport's teams by forbidding the cable system from carrying a television broadcast of the same sport when the home team is playing at home, except if that event is already being broadcast over the air locally. Thus if the Reds, the Bengals or our new NHL professional hockey team were playing at home, the cablecaster could not import any baseball, football, or hockey game. Presently, if the Bengals are playing at home and the game is blacked out locally but being broadcast elsewhere, the cable operator has three separate methods available within the rules of the "distant signalmanship" game to import any professional football game, and he might even be able to come up with the Bengals game itself!* It is incontestable that the ability to do this would give a fantastic boost to cable subscriptions.

*Apparently one, and possibly two, of the three methods will no longer be permitted according to a December 15 letter from the F.C.C. to Scripps Howard, whose contents have just been relayed to me over the phone by Clyde Haehnle, Vice President of Avco Broadcasting (to whom I am also indebted for technical suggestions in Chapter 2). In this letter the Commission forbids a cable operator from importing an NFL play-off game televised on a distant network channel not normally carried on his cable system when it was the network, rather than its local affiliate, who was responsible for the decision to black out the game. Evidently the F.C.C. is drawing a distinction between the affiliate's own decision not to carry the event, where the cablecaster could import it, and the above situation where the network did not make it available to its local affiliate, so that the resultant black out was beyond the affiliate's choice.

While applauding this proposed rule making as far as it goes, MST has also petitioned for a reconsideration which would tighten the sports screw right down to the head. It would not only further restrict pay cable by still tougher anti-siphoning rules, but would outright forbid CATV systems to "originate cablecasts of live professional sports events". Furthermore, MST requests that even college and high school sports not be originated on the cable, if during the past 5 years a game of the same sport involving one or more of the schools was telecast by a local station.

All proposed additional restrictions on the carriage of sports over the cable are anathema to N.C.T.A. David Foster, President of N.C.T.A., testified in front of the Senate Committee on Commerce 6-28-72 that "sports is unquestionably the most popular category of programming on television" and later admitted that imported sports programming is "perhaps the major factor in cable's hopes to penetrate the major markets".

The clouds on the Congressional front result from the Pastore Bill in the Senate and others in the House, which have as their central proposition the lifting of local TV blackouts of any home game sold out 48 hours in advance. In statements supporting this bill before the Sub-committee on Communications at the Senate Commerce Committee (10-5-72), MST urged that the bill's wording "make it crystal clear that when the special conditions are met (a sellout 48 hours prior to game time) the game is to appear on local free broadcast television, not some form of pay television or CATV". There is much to be said on behalf of the Pastore concept. It is deservedly popular with the local fan, who can neither get a ticket to the game being played in a stadium which as a local tax payer he is subsidizing, nor can he see it on TV at home! President Nixon also voiced support in his unsuccessful appeal to lift the local TV blackouts of the NFL play-off games.

From the home team's viewpoint, it seems preferable to sell rights to the cable operator for a good bundle, as this poses less of a long run threat to the gate than televising it free over the air. At the same time, our city or county might find a way to share in some of the revenue of a home game sold to the cable operator because of their interest in the stadium. We have already opined that if a Cincinnati cable operator could sign up all the blacked-out home games of the Bengals alone, he would be taking a giant step toward the 40% penetration figure that he will need to operate profitably. This vision will prove to be a mirage if, as predicted, the Pastore Bill or something quite like it becomes law.

Movies and Other Entertainment on Pay Cable. The main cord that connects all the MST filings before the Commission is the stance that, "if it's popular, it's ours". Accordingly, MST pleads that the public interest demands that more serious restrictions also be placed on other big box office attractions cablecast for pay, to wit:

- No feature films in general release for over one year (instead of the present 2 to 10 years) should be cablecast for pay.
- The prohibition against serial programming with interconnected plots and substantially similar casts is assumed to keep *All in the Family* off the pay cable. However, the regulations should be broadened so that variety shows with a

continuing host, such as the *Bob Hope Show* or the *Flip Wilson Show*, are similarly banned.

- The provision permitting 90% of pay offerings to consist of sports and films combined is too liberal and must be modified to lower the permissible percentage and encourage special interest rather than mass appeal programming.

Broadcasting Profits and Cable Profits

As we have seen in the typical small market where CATV has evolved, a cable franchise can be enormously profitable. In traditional broadcasting it has been the big city network stations that have enjoyed "the license to print money", while small market and UHF stations have done less well. This has led some to expect that when cable moves into the urban arena, it will like over-the-air broadcasting, be even more profitable. We have seen that this is a bad short range forecast. Longer term, cable's viability in the big cities will hinge on the giant cablevision versus television clash which will be decided by the powers that be in Washington.

It is well known that educational TV stations live a financially perilous life. Like all such, WCET is prohibited from selling advertising. It depends on the local community to contribute 90% of its funds. To adapt to the coming of cable, WCET has wisely determined to diversify its operation further by expanding its program origination capabilities to serve CATV purposes, among others.

Not as well known is the fact that of 48 independent, commercial UHF stations, only 6 operated at a profit in 1971. Our own WXIX, Channel 19, sustained a substantial loss in 1971 and in 1972 has just barely moved up into the black for the first time. Under the operating circumstances which dramatically handicap UHF independents, even a small profit is a large feather in the cap of Channel 19's General Manager, Jim Boaz. In the short term, UHF stations stand to gain from the growth of cable television because it suddenly affords them complete signal parity with VHF stations. Desirable independents, like WXIX, will also benefit from being imported into other markets. Over the longer haul, the sheer number of competing channels on the cable may tip the scale against the commercial independent as well as the educational stations.

There are also those cable enthusiasts who forecast the demise of the networks and the local affiliated stations, or at least predict they will have to play a substantially altered role (such as originating programming for the cable), in order to survive the CATV challenge. While this may in the future occur, it must be realized that given the present level of operating profits and return on investment, such stations are not to be categorized as an endangered species—as a persual of the financial data will confirm.

In 1971, the total broadcast revenues of the three network affiliated stations in Cincinnati came to about $14,646,000. Broadcast income totaled about $3,975,000, or 27.1% before Federal income taxes. There results are not out of line for network affiliated broadcasting stations in major markets. The juiciest franchises of all are the 15 network owned and operated stations located in the five largest metropolitan areas. These "0 and 0" stations not only grossed 32% on sales revenues before Federal income tax, but returned in 1971 alone an astonishing

1971 Financial Data for TV Stations and Networks

	1 Investment in original tangible broadcast property at original cost	2 Total broadcast revenues (sales) 1971	3 Total broadcast income, before Federal income tax 1971	3:2 % Income to revenue (sales) 1971	3:1 1971 % return on original (undepreciated) tangible broadcast property
Figures are in millions of dollars					
The 3 National Networks	$ 220.6	$1,094.1	$53.7	4.9%	24.3%
The 15 Network Owned and Operated Stations	82.0	284.8	91.2	32.0%	111.2%
The 491 other VHF Stations	1,053.0	1,223.3	277.0	22.6%	26.3%
The 182 UHF Stations*	209.1	148.2	− 32.7	− 22.1%	− 15.7%
The 3 Cincinnati VHF Stations**	not available	$ 14.6	$ 4.0	27.1%	

*Includes network and independent UHF's. 60% of the former group and 85.7% of the latter operated at a loss in 1971.

**F.C.C. Market Data for Cincinnati lumps the figures from our 4 commercial TV Stations. WXIX revenue and income data (furnished to the writer from a different source) have been subtracted to arrive at the composite revenue and income figures for the 3 network TV stations.

Source: TV Broadcast Financial Data, 1971 Federal Communications Commission.

111.2% pre-tax profit on their original, undepreciated investment in tangible assets! One of the reasons for these excellent operating ratios and high returns on investment, is the government policy which failed to regulate the rates broadcasters could charge for advertising in a situation where spectrum space drastically limited the number of stations that could be licensed. The classical oligopolistic profits thus ensued, and the position was more flagrant before the UHF frequencies were opened up in the 1960's. At least with cable television, the basic subscriber rates can be controlled from the start by the local franchising authority.

Television Advertising and Consumer Prices

An almost ubiquitous snake oil proposition that permeates the cable literature is the confident statement that pay cable won't really cost the consumer more, because he pays for present advertising supported "free" TV by the extra advertising costs included in the retail price of the product. (See footnote for chapter and verse.)[1] While more empirical studies must be made, the exact opposite is surely closer to the truth. If pay cable supplants advertiser supported broadcasting, the consumer will almost certainly pay higher retail prices. Mass television advertising lowers consumer prices in two ways:

1. The economies of large scale production by the manufacturer offset to some degree, and at times exceed, his advertising costs.

2. By far the biggest savings occur in the spread between manufacturer's selling price and consumer price (typically 50% of the retail price of most products).

Highly advertised items generally are the fastest sellers and are pulled through the distribution system at very low markups. Supermarkets and discount stores have built their business by concentrating on nationally advertised, consumer demanded brands sold at very low percentage retail markups. This marriage between national advertising and mass merchandising has been a happy one for the American consumer, though it has gone unsanctified in academia. An exception is Professor Yale Brozen of the University of Chicago's School of Business who has shown, for example, that eyeglasses and prescription drugs are cheaper in states which permit them to be advertised. Brozen has also stressed the saving in consumer "search time" resulting from advertising.

An in depth history of the American toy business done by the writer, documents the process by which trade markups were slashed almost overnight when advertising in conjunction with mass retailing hit the toy business in the early 1960's. A detailed empirical study covering the Christmas season of 1971, conclusively demonstrates that the heavily televised toys moved to the consumer at drastically lower markups than non-advertised brands. When manufacturers have removed television advertising from behind a toy category previously supported by a strong TV budget, the retail price of that category escalated. Finally, it is estimated that the toy manufacturer's cost of advertising is more than covered by the economies of large scale production per toy that are typical of highly televised toy brands.

Of course, we have seen all this two generations ago, when newspaper and radio advertising in conjunction with the then emerging drug chains and supermarkets joined to cut markups in the drug and grocery business. Surely, we are also currently

witnessing a similar phenomenon in the furniture business, where the emergence of mass retailers like Levitz and Wickes in combination with greatly increased advertising expenditures, are bringing consumer savings by the economies of longer factory runs and reduced retail markups.

Admittedly, there is a price we pay for these demonstrable economic benefits of television advertising. This price is the intrusiveness of television commercials which can become intolerable when commercials pile up at the climax of a movie or interrupt a sporting event to cause a phony time-out called, not by the teams on the field, but by the sponsor. This is the Achilles' heel of broadcast television, and there may be many viewers who would pay $2 more on a pay channel to see a play or movie uninterrupted by commercials.

The Necessity for a Long Range Television/Cablevision Policy

A demise of television advertising which might be attended by a rise in the retail price level and by diminished economic efficiency, would not be the only possible adverse consequence of a cablevision rout of the television forces. The specter of diminished video services to a major segment of our population is an even less pleasant vision to contemplate. It is all very well to argue that the CATV operator should be free to bid for and cablecast any and all programming attractions he can get his hands on, and let the public decide the outcome of the cablevision vs television struggle with no holds barred. But we have an obligation to continue the analysis one more step into the future.

The American Broadcasting Co. has estimated in its comments before the F.C.C. that to wire up 50% of America's television homes projected for 1980 would cost approximately $8.5 billion. To extend the cable to the other half would cost an enormous $123 billion, simply because these persons reside in the less densely populated areas where cable construction costs per mile skyrocket. It seems most unlikely that private operators will be able to afford to spread the cable beyond areas of reasonable density. Is the coming of cable to vast portions of America to be accomplished by heavy subsidization? Should it be?

Disinterested parties must continually scan the future. For, the wisest decisions on the crucial problems of pay cablecasting, sports and movies require that they be able to survive a test of their likely future impact. Let us construct just one possible scenario where the forces of cablevision have achieved total victory in their battle for the removal of all shackles restricting pay cable. Let us also suppose that by the 1980's, 50% of our homes are indeed wired up. With this market potential available, subscription cable entrepreneurs have outbid advertiser supported television for much of the standard mass appeal programming that had been, and without the growth of pay cable would have continued to be, carried on free television.* In this MST nightmare, millions of viewers are left with an impoverished television fare without a cablevision supplement. Now what?

For purposes of analysis, the problem must be broken into two parts. In the rural areas which have not been cabled, however humiliating may be the prospects to

them, there would be nothing to stop the TV networks or groups of local stations from purchasing from the pay cable entrepreneurs the rights to telecast in the hinterlands the mass audience events, which in the cabled areas are now being carried on the pay channels. Thus, siphoning in the cities need not lead to siphoning in rural America. Even so, there would be pressures to subsidize the cabling of rural America if the blessings that CATV had bestowed upon the cities proved sufficiently abundant—or possibly also to bring certain kinds of medical, educational or other benefits to the outlying areas which were not obtainable without the cable.

Within the metropolitan areas, there may still be in the 1980's, 30–40% of the households which are uncabled. Here the cable probably has passed most all of these homes, but they simply didn't opt to pay for being hooked up. Since these uncabled homes are served by the same TV stations that cover the balance of the metropolitan area, the remedy which worked in rural America cannot enrich their viewing malnutrition. There is no longer a choice. All persons wishing to see mass audience fare in the cabled areas will simply have to become cable subscribers.

The results of massive siphoning therefore are, strangely enough, more deleterious in the cities than in the hinterlands. Furthermore, many local broadcasters, especially the UHF stations, may fall by the wayside in the cities with a loss of local programming that the cablecaster's local origination channel may not entirely replace. Thus, adding it all up in this complex business, there does seem to be merit in the retention of some moderate anti-siphoning restrictions against pay cablecasting. There is very little evidence that the F.C.C. or the Congress favors a complete unshackling of pay cable, anyhow, though the Justice Department may have different ideas.

While it is debating the CATV restrictions to be added or subtracted, it is suggested that the Commission at the same time should consider moving commercial television into the main stream of the American regulatory tradition through control of the rates charged for advertising. This important tradition invariably provides a rate setting authority, to which the user may also appeal, in an industry where the government for good cause licenses only a few competitors and severely restricts entry.

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*If the cable anti-siphoning restrictions on sports carriage were removed, the Super Bowl for which CBS reportedly paid $2.5 million for exclusive rights to the 1972 game, would be up for grabs. If only 60% of the 35 million homes presumed to be on the cable in the 1980's would pay $2 to see the game on a pay cable channel, the total gross would be $42 million. The pay cable interests could obviously outbid the networks and land this attraction.

8

Structuring a Greater Cincinnati Cable Television System in the Light of Federal, State and Local Regulations

Dealing With the Regulatory Vacuum

As covered in Chapter 4, the F.C.C. deliberately created a dual level structure to regulate cable television service. Substantial powers were left to the local regulatory authority, by which is meant any level of government below the federal. But the Commission did not specify whether the local controls were to be exercised by the states, regional authorities, counties or municipalities. Unfortunately besides the question of which level of government is going to do what, we have especially in Ohio, the problem of whether there in fact exists the legal muscle to exercise many of the regulatory functions left by the federal authority to be performed locally.

Ohio and Kentucky Regulations and the Public Utility Status of CATV. A small but growing number of states are interposing themselves into the cable picture between the federal and municipal levels. While nothing specific has been done in either Ohio or Kentucky, lots of background work is in preparation. In Columbus, three groups are studying CATV–the State Public Utilities Commission, which reportedly will ask for legislation placing cable television under its jurisdiction; the Office of Policy Research under Dr. Joseph Foley of O.S.U. is readying a position paper for the Governor; and the Legislative Service Commission is furnishing a study for the State Legislature.

One of the several major questions being addressed is what the state might do to facilitate regional planning, interconnection, and common franchising by local governments. Even where the desire for cooperation exists, common ventures of this sort have been very difficult to put together. The appropriate state legislation would be a substantial help here. Another field is the hopelessly weak structure of county government in Ohio. Counties are not permitted to exercise any powers not specifically delegated to them. The power to franchise a CATV system has not been so delegated. New state legislation permitting the Boards of County Commissioners to do just that would be very timely.

In Ohio, cable television is not a statutory public utility. Based in part on the

decision of Judge Young in Greater Fremont vs. City of Fremont, I have received the legal prediction that Ohio courts would not hold CATV to be a common law utility, either. CATV's non-public utility status in combination with the lack of local regulatory clout on the county level forecloses many desirable options for the organization of a sensible grid of cable systems in Ohio.

In Kentucky, certain of these matters have been differently resolved. Even though the state has done nothing specific as yet in the cable television area, the regulatory vacuum is far smaller than in Ohio. Like Ohio, CATV is not a statutory public utility in Kentucky. However, legislation is being drafted which would put CATV entirely under the jurisdiction of the state's utilities agency, to whom applications would have to be made for Certificates of Necessity and Convenience by any potential cable operator. How serious a hearing this is likely to receive in Frankfort is unclear.

There the similarity with Ohio ends. For one thing cable television is apparently considered a common law public utility in the Blue Grass state. For another, within the last year the State Legislature granted home rule powers to counties. Accordingly, it appears that Kentucky counties have in regard to their unincorporated areas most of the same powers which municipalities may exercise within their boundaries. Specifically in regard to cable television, these include the authority to franchise a private CATV system, and for that matter, also to own and operate one should a county choose to. In the hands of the Fiscal Court Judges of a Kentucky county, are vested many of the combined powers of an Ohio County Commissioner, County Administrator and Sheriff. Kentucky counties have the tools they need to do the cable job.

Regional Authorities. None of the numerous regional authorities are at this time empowered to grant a cable franchise. In the Dayton area, the Miami Valley Council of Governments though lacking in power, nonetheless played a crucial role in bringing the municipalities together for common cable television planning. Through C.O.G., each city voluntarily agreed to a moratorium on franchising, and C.O.G. provided the plan for the configuration of a regional CATV system.

Our 9 county Ohio, Kentucky, Indiana Regional Planning Authority (OKI) is in the process of becoming a Council of Governments. A check with them in October, 1972 indicated no activity in the cable area but a receptivity to becoming involved if the membership were so inclined. Through the Cincinnati Cable Task Force, a fruitful meeting was held in November with OKI's Director, Tony Hessling, and members of his staff. Though it is late in the day, OKI can still play a vital role. It can serve as a conduit of information to its membership from the Cincinnati Cable Task Force and from other municipalities in its region who are working on CATV. OKI can also provide neutral turf for a meeting place of the municipalities and counties in its region so that all units of government might explore system interconnection and other fields of cooperation. At such meetings, the implications of going off blindly in separate directions would become apparent.

Franchising and Ownership Possibilities in the Unincorporated Areas. As a check on their presumed powerlessness to franchise a CATV system, the Hamilton County

Commissioners requested an opinion from the Office of the Prosecuting Attorney whose reply of 10-21-71 concluded with this sentence: "Therefore it is our opinion that the Board of County Commissioners does not have the authority to grant a franchise to a private company to install and maintain television transmission cables in the public rights-of-way in the unincorporated areas".

Such a regulatory vacuum in unincorporated areas is fairly common. Frequently in these circumstances, cable operators who had been franchised by nearby municipalities simply, in the compelling language of the trade, "bled out into the county" where they cabled up the denser portions and generally ignored the rest. Subject to no control over rates or other standard stipulations of a local franchise, the cable entrepreneur was free to maneuver in any manner not in contravention of the federal regulations. Since F.C.C. Certificates of Compliance have been required, the situation has improved – but only slightly. Cablecasters would now have to apply for separate certificates to cable up the unincorporated areas in Ohio. In the granting of the certificates, an F.C.C. staffer explained that the Commission would listen to what a county had to say about the terms of the cablecaster's application, and might possibly then revise some of them before issuing the certificate. The staffer went on to make it clear that where the county had no authority to grant a franchise, the F.C.C. was not about to intervene in a matter of state law to bestow any prerogatives on the counties they did not already possess. The magnitude of the problem is underlined by the population count. The unincorporated areas contain 440,000 persons, or 32% of the population of the five Ohio counties within the 35 mile zone of the Cincinnati television market. In Hamilton County 26%, or 237,000 people, live in unincorporated areas.

The fact that Ohio counties may nevertheless become bona fide players in the cable game will be received with surprise in county and township circles! These unappreciated possibilities spring from Chapter 165 of the Ohio Revised Code under which the county is permitted to issue so-called industrial development bonds. These may be used to acquire or construct, and then lease, a project which fulfills the purposes of Section 13 of Article VIII of the Ohio Constitution. The requirements are that the project be used for commerce or industry and that it create jobs and employment openings to improve the economic welfare of the people of the state. The industrial development bonds would be revenue bonds, and under an IRS limitation the interest is exempt from Federal income tax only where the issue does not exceed $5 million. This poses no practical problem, since the Commissioners would probably prefer to set up a number of separate franchise systems covering the unincorporated areas which might, where possible, follow township lines. Each of these systems could be constructed for under $5 million provided the operator was not required to wire up homes where the density was of an almost rural nature.

The county would not be permitted, nor again would it probably wish, to run the cable systems built with such financing. Rather it would lease out the operation to a private entrepreneur. This would, in effect, *make the county a franchising authority!* By selecting an operator being franchised in a contiguous section of Cincinnati, or by a small municipality, residents of the unincorporated areas could

be assured of being part of a system of sufficient size to permit the economies of scale—a benefit which would also be important for smaller municipalities cooperating with the county in a venture of this sort. But the principal value of this scheme is that—in the absence of new regulations from Washington or fundamental new legislation from Columbus—it alone permits selection of the franchisee, establishing subscriber rates, and achieving other controls over the CATV systems in the unincorporated areas of Ohio.

Interconnection and Area-Wide Planning. Besides the townships, there are 37 incorporated villages and cities in Hamilton County and 27 more in Boone, Kenton and Campbell Counties across the river in Kentucky. If there are advantages of both economic efficiency and assurance of full interconnection that can be achieved only with overall planning, what legal handle do we all have to bring such cooperation about? The answer is, again absent new regulations or legislation, that we have none. What can we do about it? The first requirement is to spread the word far and wide that there is much to gain from such cooperation, without the municipalities having to lose any of the meaningful powers of decision which they so jealously prize.

A portion of the educational job, and perhaps a broader role besides, can be performed by OKI. The Cincinnati Cable Task Force, as the major on-going CATV study process in the central city of the region is best positioned to make the strongest contribution, if it can avoid coming on like a carnivorous giant. The Task Force is entirely aware of this responsibility and is also creating an unmenacing public image. Through Task Force contacts with the cities of Silverton and Blue Ash, these municipalities recently decided to declare a moratorium on cable franchise—a lead which I urgently suggest be followed elsewhere, recalling that the advantages of common planning and cooperation will accrue more to the smaller municipalities than to the central city. Cable franchises in Hamilton County and northern Kentucky have so far been granted in Lockland, Reading and Milford, Ohio and Erlanger, Kentucky. There is intense and continuing pressure on most of the remaining municipalities to grant franchises, and more may fall anytime.

Cincinnati's Mayor Theodore Berry struck the correct statesmanlike note in his December 14 address to his city's Cable Task Force. He exhorted its members not to play a role that is parochial to Cincinnati and urged them to serve the interests of all citizens of the metropolitan area. Mayor Berry has a good knowledge of CATV and is also aware that his city accounts for an unusually small percentage of its metropolitan area, so that even if it were so inclined, it cannot tell the surrounding territory to "get lost." In the top 50 metropolitan areas, Cincinnati ranks 41st in the percentage of central city to metro-area population, and several of the still lower ranking cities are located in areas where there are forms of metro-government to help bring some order to the regional cable configuration.

David Mann unearthed a specific technique by which all Ohio municipalities in the Greater Cincinnati area might get together in a cooperative arrangement cemented by some legal glue. Section 307.15 of the Ohio Revised Code permits the legislative authority of any municipal corporation to enter into an agreement with the county wherein it may delegate all or any portion of its cable television powers

to the county.* If we may assume that the County Commissioners have first decided to put themselves into the franchising role for the unincorporated areas through the Chapter 165 industrial development bond route, we now have all hands aboard. The marriage of Chapter 165 and Section 307.15 is an ingeniously constructed union, which however was not conceived in a political heaven. Even were it politically feasible, it would be undesirable for municipalities to abdicate the responsibility each has to tailor a franchise to fit the unique needs of that village or city. Yet when it comes to the programming benefits of full interconnection and the economic benefits of a county-wide plan devising an optimal system's configuration, nothing a councilman can write into his municipality's franchise can deliver these benefits. Therefore his "delegation" of these powers to the county is not one which should cause him to lose any sleep. For it is only by permitting an area-wide agency to exercise the planning and interconnection powers, that he can bring their benefits to his constituency.

Closed Circuit Cable Systems. Section 4931.11 of the Ohio Revised Code grants a company organized to transact a "communication business" certain entitlements to use the public rights-of-way and to lay underground wires. It is clear that, like a telephone or telegraph company, an operation transmitting impulses through a coaxial cable is a communication business. If that communication business were a statutory public utility like telephone or telegraph, the Ohio P.U.C.O. would control the issuance of a Certificate of Necessity and Convenience, prerequisite to the commencement of service. If that communication business were a cable television service as defined in Section 76.5 of the February, 1972 F.C.C. Report and Order, it would require a Certificate of Compliance from the Commission which would not be granted unless a proper franchise agreement had been signed with the local authority (except in the unincorporated areas of the county, but Ohio County Commissioners have a remedy in county ownership).

The kind of closed circuit CATV service being provided by Telco in Manhattan thus appears outside of the present regulatory embrace of Columbus or Washington. If an entrepreneur made arrangements with the telephone company to use its existing aerial or underground coaxial cables to transmit pay movies (or anything else) to homes, apartments or hotels, it seems there is very little a city or county in Ohio could do about it. Nor could a municipality block the erection of new aerial cables to transmit such pay programming. Only the laying of new underground wires requires the city's consent, and here it might be possible for a municipality, if it wished, to grant its permission contingent upon the cable not being used for the transmission of subscription programming.

Thus on the whole it appears that the Telco threat to the viability of franchised CATV systems is alive and well in Ohio, unless and until action is taken at either the state or federal level.

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*Though the statute's language is not completely clear, it also appears that Ohio counties may similarly delegate powers to each other, thus permitting (at least in theory) one Ohio county to be legally charged with planning and interconnection for our 4 or 5 county area. Cooperation with the Kentucky and Indiana sections of the cable region would have to be by compact, or most likely, through the good offices of OKI.

Shaping Cable Television's Future in the City of Cincinnati

Reserved Space. During the meetings of the Land Use Subcommittee of Cincinnati's Environmental Task Force, a very interesting clause in an 1891 Ordinance emerged which is worthy of more intensive analysis than I can give it. In that ordinance, the telephone company agreed to reserve for the City of Cincinnati free space both overhead and underground for "police, fire alarm and other official department telegraph and telephone service". The question is, can the city make use of this right to earn an additional fee where the coaxial cable uses the city's reserved space? Vincent Stamp, Chairman of the Cincinnati Environmental Task Force, has suggested that the city could, in return for releasing its space back to the telephone company who would in turn lease it to the cable operator, receive from the telephone company a portion of the rental revenues paid by the cable franchisee. Or, taking a different approach, the city might argue that municipal cable channels serve the identical kinds of uses as those for which the telephone company has reserved space for the city. This leads to the running of a free coaxial cable dedicated exclusively to governmental uses in the city's reserved space.

Undergrounding Of Cable Lines. It does not seem clear under state law whether Ohio cities may require in their cable franchise that all, or certain portions, of the cable be laid underground. If the city does not have this authority, it should be able nonetheless to achieve its wishes through the franchise bidding process. Assuming that the city one way or another gains authority in this field, should it require the cable to be laid underground thereby increasing the initial cost many fold? We have seen that the percentage of underground cable is the major single determinent of capital cost. In this trade-off with environmental concerns, most cities have not required undergrounding except where all other utilities were also underground. This is the situation only in the downtown heart of Cincinnati and in a very few new suburbs, and undergrounding of the coaxial cable in these areas should be required.

According to the telephone company, in perhaps 40% of the city telephone lines are underground, but the power lines are strung on poles.* In these areas, provided existing space is available in the underground ducts, the city should consider asking that the cable be laid in the underground duct, after making careful cost studies. If duct space is available, laying the cable underground could be almost as economical as aerial stringing. I have received conflicting answers to the question of how much space in the underground ducts is available. Furthermore, the telephone company would like to reserve what room remains for planned additional telephone wires. Cincinnati City Manager, E. Robert Turner, indicated to me his desire to push for future reduction of aerial wiring. Thus, the cable undergrounding decision forms

*Federal safety regulations, incidentally, prevent placing a coaxial cable or a telephone wire in the same underground duct as an electric power line.

only one part of an overall Cincinnati undergrounding program. The imminence of CATV requires that policy be formulated now, so the cabling of the city may be carried out in accordance with an overall utilities undergrounding plan.

The Right to Hook-Up Apartment Buildings. In Manhattan many large apartment buildings are not yet cabled because the owner has demanded an arm and a leg from the cable operator for this privilege. Legislation on the state level is being enacted in New York to handle the problem. The same potential exists here, since Section 4931.05 of the Ohio Revised Code requires the consent of the "owner in writing".

Invasion Of Privacy. Though the sensational charges of Prof. Etzioni reported in Chapter 1 appear unfounded, the future dangers to invasion of privacy nonetheless are very real. With the growth of computerized two-way service there will be the capability at the head end of continuously scanning and recording what each subscriber is viewing and the nature of his return communications. The dissemination of a dossier where an individual's habits and responses have been compiled, is an undesirable practice per se. The mischief to which the information could be put is not difficult to imagine.

Suppose an agency of the government, or a newspaper reporter or a potential employer, learned that Joe Doakes had a proclivity for viewing the occasional cablecasts targeted to homosexuals, members of the John Birch Society or the Socialist Labor Party? It is also possible to conjure up abuses arising in such an ordinarily praiseworthy setting as a bi-directional cabled town meeting. Suppose a powerful local political leader were sponsoring a favorite project on which, after a cablecasted discussion, there is to be a supposedly secret vote taken. From his cabled TV set at home, Doakes types *"NO"* on his digital keyboard, and this response along with others is recorded and compiled at the head end. There the politico, through a bribe to an employee, scans the vote tally to learn who are his friends who shall be rewarded, and who are his enemies who must be punished in the ward.

Lacking present legal protection at the Federal level, the states and municipalities should act to protect the privacy of viewing and responding habits. Franchising authorities should also mandate technical safeguards into the cable system's design. The Detroit Cable TV Study Committee's report contains an excellent discussion of this topic and makes three recommendations to the Detroit Common Council.[1]

1. "That cable system subscribers be granted, by law, a right of action for invasion of their privacy involving the cable system, and that such invasions of privacy also be made a criminal offense with violators subject to fine and/or imprisonment."
2. "That the cable system be designed to prevent any duplex returns without a subscriber's specific permission: that the system design and operation incorporate safeguards to prevent third parties from tapping into the system and thereby invading a subscriber's privacy."
3. "That monitoring of a cable system subscriber's viewing habits without his

express permission be precluded, if possible, by system design and prohibited by law. Such prohibitions shall not prevent cumulative viewing analyses and research sampling."

Municipal Ownership? Ohio counties require public ownership to exercise the local regulatory powers of a franchising authority, but such is not the case with Ohio municipalities nor with the counties or cities in Kentucky. Municipal ownership is irrelevant to the interconnection and area-wide planning problems. It does not remedy the threat of a closed circuit pay cable operation. It does not address itself to the small municipality's problem of economic viability, requiring them to be a part of a larger franchising area. It is probably not germane to the undergrounding decision. It is not a solution to the basic economic puzzle of whether a full service CATV system can operate in the black in a major city. Municipal ownership is a mode which does not seem to be favored by the black population, or at least its intellectual leadership involved in the cable television field. It is repugnant to large sections of the business community and the middle class.

Thus public ownership in the Cincinnati metropolitan area (except at the Ohio county level regulating CATV in the unincorporated areas) does not seem a remedy to the major cablevision problems we have so far identified. Nonetheless, there will be those who disagree with this analysis or who stridently champion it for other reasons, which are better analyzed during a more specific examination of what a municipally owned CATV system in Cincinnati might look like.

Financing. The basic entitlement of municipalities to construct and own a CATV system derives from Article VIII, Section 13 of the Ohio Constitution. The statutory framework (Chapter 165 of the Ohio Revised Code) is, of course, also available to municipalities but leads to virtually identical results. Like the industrial development bonds that the county might issue to build its CATV systems, the city's revenue bonds are subject to the $5 million per issue ceiling to be exempt from Federal income tax. Hence 3 or 4 separate issues are necessary to cable up the entire City of Cincinnati, which is not of itself an impediment. The important fact about the financing is that general obligation bonds are not an allowable vehicle, since CATV is not currently considered a public utility in Ohio. The interest rate on these revenue bonds would be several points higher than a general obligation bond, and it is doubtful that the city could lower the spread by pledging a portion of its receipts from the earnings or property taxes. Thus, the rate of interest would not necessarily be less than a well capitalized private borrower would have to pay, and if equity funds were combined with debt, such a private financing would enjoy a lower overall cost of money.

Operating A Municipally Owned Cable System. My legal advice indicates that the Ohio Constitutional provision empowering a city to construct, own and lease a cable television system does not also grant it power to operate it. That power would likewise seem to require that CATV be considered a public utility. Again nothing is lost by this finding, as few municipal ownership advocates favor a city also operating a franchise. The city could lease the operation to a private entrepreneur

or a non-profit corporation. Leasing by the city to a special public authority created to operate the system, all of whose board members are appointed by the Mayor and Council, has been recommended by the Council's Cable TV Study Committee in Detroit. This arrangement would require a charter revision in Cincinnati or a statutory change at the state level. At any rate, operation by a public authority seems extraordinarily undesirable, even if permitted. To subject this communication medium to the ownership and operating control of government, with the ever attendant dangers of political manipulation and interference with freedom of expression, seems a dismal idea.

Leasing to a private entrepreneur does not bring the kind of management philosophy municipal ownership advocates are seeking. It may also encounter the hurdle of being unable to attract the kind of skilled entrepreneurs needed to develop cable television during its early stages. Such operators are generally not for hire on a fee basis alone, but also require the incentive of an equity position. (In the future when the cable industry matures, such expertise may be readily available for hire, as it is in the urban transportation field.) Incidentally, this is not a problem which the county owned system should encounter. For a cable operator who has received the Cincinnati franchise to build and operate a system in the Western Hills section, should be happy also to accept a franchise from Hamilton County to operate the county owned system in Delhi Township on the western border of Cincinnati. In any event, municipal ownership advocates would probably be more comfortable leasing the system to a non-profit corporation. Its Board of Directors might be expected to be composed of individuals from various community institutions with strong representation from the community councils and educational, religious, cultural and social planning groups. A few seats on the board might be reserved for representatives of the city government, but not too many if we are to avoid the kinds of dangers referred to in the discussion of operation by a public authority. Its charter could possibly be so written to qualify it as a charitable organization exempt from Federal income tax, and this would prove beneficial when and if the system turned a profit.

Analysis Of A Municipally Owned CATV System Operated By A Non-Profit Community Corporation. Champions of a municipally owned CATV system argue that public ownership will serve the community far better than a private system in two crucial areas:

1. The benefits of superior programming addressed to the social, cultural and educational needs of the citizenry.

2. The benefits of "recycling" the profits, bound to result from the fact that CATV is a natural monopoly, back into the system instead of permitting them to escape into the coffers of an outside MSO.

Readers may judge for themselves whether a sufficiently convincing case can be made that a municipally owned system will deliver on these two promises to sell the concept to a Cincinnati public that would ordinarily opt for a private mode. The conclusion here is strongly in the negative.

There is no reason, if our institutions, neighborhood groups and citizens are

involved in CATV that a private operator cannot provide equally excellent local program originations. His instinctual interests in tune-in could be an important safeguard against an overdose of the kind of socially worthwhile, tiny audience fare that a community operating board might be inclined to impose on its subscribers. When it comes to the desire and know-how to locate compelling sports, movies and other major box office attractions, the private entrepreneur would turn in a better job hands down. Indeed, some members of the non-profit community board would be likely to demean the very idea of such programming as an appeal to the baser side of human nature.*

Every bit of drive, market exploitation expertise and entrepreneurship skill is required to insure the economic viability of the cable television systems in Cincinnati, constructed not on a Robert Hall basis, but equipped to provide the full complement of one-way cable services. The challenge in Cincinnati is even more difficult than in many major cities with poorer over-the-air reception. We are 100 times more likely to get this first rate business performance from a carefully selected private cable entrepreneur with a major equity interest at stake. The assumption that the public interest requires municipal ownership of major market CATV systems to insure against an unconscionable level of profits is not made by knowledgeable persons in the field, including those at the F.C.C. Cable Television Bureau.

In this connection, the City Council's power to set the initial subscriber rates and to approve any increases affords strong protection against profiteering.** Of course, the franchisee is almost bound to operate in the red during his first 5 to 10 years. As a further insurance against economic exploitation or any other abuses, the municipal franchise should include a provision for the city to acquire the CATV system on a mutually fair basis upon the expiration of the F.C.C.'s standard 15 year term, or sooner, for substantial non-performance of the franchise terms.

Risk capital from within the city and from without will come in to bid for the cable franchise, unless the Council builds too many costly extras into its model franchise. Why not let these private companies, rather than the city, take the risks that losses will be greater and endure longer than forecast? All of this adds up to a situation where we can attract private capital to erect and operate our cable

*The kind of management which is insensitive to the audience imperative – which continues to cablecast what it believes its customers *ought to like* instead of what the tune-in data reveal its customers *do like* – is exhibiting a "public be damned" attitude which inhibits sign up and is asking for subscriber cancellations. Such a viewpoint, which imperils the very economic existence of the CATV operation, is unlikely to characterize the management philosophy of a private cablecaster with his own or his community shareholder's equity investment at risk. Moreover, unless subscriber penetration is maximized, the public and social services furnished on the cable will benefit the few instead of the many.

This is the clearest answer I can give to those who, after reading a draft of this book, favor Cincinnati municipal ownership and question why I am so concerned with tune-in data and adjusting the programming to reflect what the various audience segments desire to view. The very question itself is illustrative of the reasons for my uneasiness over the prospect of Cincinnati city ownership, rather than public regulation of a series of privately owned cable systems.

**There is one worrisome loophole whose possible development will have to be closely tracked. This is the lack of power to control rates over non-subscriber charges. When and if these become an important revenue source for CATV systems, we must be certain that there is control at some level of government. A cable franchise, after all, creates a monopolistic situation requiring rate regulation.

television business without fear of a "rip-off". I say, therefore, full speed ahead!*

Multiple City Franchise Areas. The abundance of cable channels permits some of these resources to be directed to neighborhood purposes—be they community programming, public access, advertising, or whatever. Different sections of our city and county enjoy a commonality of interests that scarce-channel television broadcasting cannot afford to cater to. Cable, therefore, is the natural method by which audio-video communication can be organized on less than a city-wide basis—a need in the newspaper medium which is being filled by the burgeoning recent growth of the suburban press.

Happily as we have noted, the economies of scale for modern one-way cable service virtually disappear when the area to be served reaches about 75,000 persons (25,000 homes). When bi-directional and computer interaction becomes an important component of cable service, larger size units seem desirable for optimum efficiency. Even here, an area with 150,000 persons would seem to be a very efficient size. Thus 3 or 4 cable subsystems in the City of Cincinnati, interconnected with each other as well as with the franchises in the metropolitan area, is an eminently desirable design.

Drawing the boundaries of these franchise areas will be a demanding task which must take into account natural neighborhood groupings, density, the realities of financing, and other factors. While the residents of southwest Dayton strongly desired their own franchise area, it would be arrogant to impose such a suggestion here. It will be up to the black community and to other groups to make their wishes known, and the final configuration must attempt to accommodate these expressions.

A further benefit accruing from multiple systems is the greater number of bidders this scheme permits. Not many applicants will be found to bid on a single $15–$20 million Cincinnati cable franchise. Three franchises with construction costs of $5–7 million each will attract a far greater number of prospective franchisees to enter the

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*One other scheme for cabling up Cincinnati deserves mention since it has been strongly advocated by certain individuals in the Cincinnati Cable Task Force. Under this plan, one small "test area" only, probably located in the inner-city, would be wired up. It would be initially operated by a community board having the kind of constituency earlier described for the non-profit corporation. After several years of experimentation and observation of this small CATV operation, franchises covering the balance of the city would be let incorporating the lessons learned. I cannot fathom the redeeming features of this proposal, nor is it clear what it is that is being tested.

If adopted, the major cost would be the abandonment of all hopes for area-wide planning. Even a modern day Canute would not aspire to hold back for 3 or 4 years the pressures to franchise in the other 59 municipalities of the 4 county area. While good neighborhood program content might be furnished in the test area, obviously the university without walls, health care delivery and other larger scale cable services requiring an area-wide market are not going to be developed for a potential of 5–10,000 homes. Instead of the discouragement implicit in a delay, the public interest requires that strong encouragement and pressure be applied to expedite the plans for cable service delivery in these exciting fields.

Lacking such services, and also the mass audience programming that so small a system could never successfully bid for, conditions in this test market would be so different from full scale cable service that results would not be projectable.

bidding contest. In turn, this encourages a greater diversity of operating styles from major MSO's to strictly, local community and entrepreneurial groups. The more bidders for the franchise, the stronger the city's bargaining hand in the lengthy negotiations leading to franchise.

Once service has commenced, a kind of competition between system operators ensues, working in the public's favor. True, a cablecasting company holds a franchise in a discreet area. Yet people from all over will be forever comparing the quality of local origination programming, the efficiency and courtesy with which repairs are handled and the number of innovative services offered by the cablecaster. In this way, pressure gets applied wherever cable service in one operating area appears inferior to another.

Again, the city's regulatory hand will be strengthened. The better systems provide a bench mark by which our department of telecommunications (or whatever we name the bureau reporting to the City Manager charged with regulating cable) can shape up the laggards. As the franchise period draws toward a close, each franchisee at once casts an envious eye towards the prospect of taking over his neighbor's system and at the same time fears that the reverse may occur. The effect is salutary.

When the term of the franchise has expired, Cincinnati and all franchising authorities in the metropolitan area, are not faced with the rather dismal prospect of renewing with a poorly performing operator or looking for an entrepreneur unfamiliar with our city, either to take the franchise over or to lease it from the city if the municipality has elected to acquire it. Instead, in the Cincinnati metropolitan area there will be 5 to 10 system operators with local experience and track records from whom to pick.

Exercising the City's Powers. Provided the city exercises its authority with diligence and wisdom, it possesses in conjunction with the federal provisions, most all of the regulatory clout needed to control and guide the growth of cable television. There are three major powers in the hands of the city which together appear sufficient.

1. *Achieving the City's Priority Objectives through the Pre-Franchising Process.* We refer not simply to the ability to select the franchisees and the areas they are to serve, but to the use of negotiations and competitive bidding to obtain by agreement the priority goals of the city—some of which it is not permitted by the F.C.C. to mandate. First of course, the city must select those goals and rank them in some order. These must be communicated to the bidders, both by informal discussion and in the bidding documents.

Cities have followed two routes to achieve these priority community goals that it believes can be attained through its cable television service. The first involves an extra tax upon the cablecaster's revenue from basic subscriber charges, which is in addition to the 3 + % permitted to cover the cost of regulating CATV service. Generally, the extra tax is requested to underwrite the costs incidental to the public access effort, but a city could decide that other priorities were more important. Next, in its request for bids, the municipality specifically asks the applicant to detail how he proposes to handle certain specified services or other objectives and what he will charge. Examples might be: a request to wire up all schools and other named institutions; a rate card which contained substantially reduced charges for the leasing of channels devoted to education, health care delivery and other

services; an inner-city franchise plan providing minority ownership participation.

Given on one side skilled and determined city negotiators with their priorities thought out and ranked in advance, and on the other a reasonable number of bidders, the city should walk away with some of its priority objectives in the franchise agreements concluded with the winning applicants. All the while Cincinnati's cable negotiating team must bear in mind the fairly harsh economic facts of life. If it does not, it may be sure that the F.C.C. will, and if too many costly extras are appended, a Certificate of Compliance will not be forthcoming. Even were the Commission more malleable than it is likely to be, it would be unfair to require the cable subscriber to shoulder the entire burden. Consequently the city government must ask itself which goals may best be achieved through this new cable television capability and then provide funding out of the city budget.

2. *The Power to Set Subscriber Fees.* Any city negotiator worth his salt will know how and when to play this trump card. The trade-off between rates desired by the franchisee and extra services that the city has identified as top priority, comes during the bargaining sessions before the franchise is awarded and also throughout the balance of its term. The city should be able to persuade the franchisee to "volunteer" to provide services that the city is not permitted by the F.C.C. to stipulate, in return for a reasonable initial rate or a rate hike later on.

3. *Competition During the Franchise Term and at Renewal.* The ways in which the city can benefit from having multiple franchisees has already been suggested. So too has the desirability of an equitable buy-out provision at the end of the franchise term. Any decent franchisee would want to cooperate with the city and to please its administration, as well as the public it serves. This, and the desire for franchise renewal is a good carrot; and the competing local cablecasters, and the buy-out provision provide the city with a good stick as well.

* * *

There are more specific controls that the F.C.C. permits the local authority to exercise, though the three just enumerated go a very long way to make a properly selected private cable entrepreneur produce. The kind of city that cannot make this work, can be counted on to create an even greater mess if it owns the cable plant and is involved in the control of its operating agency.

If cable proves to be economically viable in major markets but fails to contribute to the solution of other problems in a particular city, the fault would probably not lie principally in the city administration but in the totality of the city's institutions and population. It has been said that people get the kind of government they deserve—an observation which is even truer when applied to a cable television system. For virtually all of the potential social gains—be they in education, health care delivery, or increased citizen participation—do not derive from the administration or the cablecaster.* Rather it is up to the citizens as individuals, and through the institutions they create, to work for these goals and to be willing to pay for them. Nothing can be done at City Hall if the Cincinnati Public School System does not develop an imaginative but feasible plan for the use of cable television in schools and homes. In turn, if the people refuse to vote the monies, the Public School System has achieved nothing despite its dedication.

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*The home entertainment and business utilization of cable service is another matter, the satisfactory delivery of which is more directly in the hands of the cable entrepreneur.

9
A Summary of Findings and Major Recommendations for Cable Television in the Greater Cincinnati Area

Findings

At The National Level. Cable television can furnish substantial new viewing options and important new services to the home and business. It can also contribute to the solution of problems in the inner-city, and it opens up exciting vistas in the areas of education, health care delivery and other metropolitan services. Computer interactive, two-way transmission on conventional or special point-to-point networks will probably include data transmission and still-frames, as well as conventional television pictures. The simpler uses of the bi-directional technology are just beginning to come on stream. The more complex are some time off.

Unlike television with its spectrum scarcity, modern CATV systems under construction provide 50–60 forward channels. This abundance perfectly fits CATV to supply a variety of intensely local needs and to become, among other things, an audio-video counterpart of the neighborhood press and the special interest magazines. Despite all of the foregoing, the extent to which cablevision will shower its blessings upon the cities has frequently been grossly exaggerated by social theorists and the cable industry alike. Though on balance CATV should be welcomed as a benefit to the community, it is not without its disadvantages.

Advertiser supported commercial television, carefully organized to cater to the mass audience taste, is a commendable system of resource allocation under conditions of spectrum scarcity. Cable, with its abundance of channels, may program to every sort of minority taste. This is one of its major assets. Thus, the long demanded "access to the medium" is at hand. But, many cable theorists are discovering that gaining access does not guarantee audience! *The audience imperative–the requirement that the viewer's preferences determine programming–must still function to require that each audience segment reasonably tunes into the special programming targeted to it.* However, community access usage of cable channels has a separate and additional participatory value which can have a very positive impact on the quality of life–especially in an urban environment–if its audience makes up in intensity what it lacks in size.

Almost all CATV operating experience to date comes from small markets, where cable evolved to bring conventional television reception to areas where the quality or variety of over-the-air broadcast signals was poor. Typically, the furnishing of this superior television reception was the sole service provided by cablevision and the only one necessary to cable up the majority of the homes. Given an assured demand and relatively low cost, profit levels were excellent.

As cable TV now moves into the major markets where television reception is generally good (as in Cincinnati), it will have to assume a new shape to succeed. Urban cable systems are burdened with both the increased costs of big city construction and those incurred to meet the new F.C.C. requirements for higher channel capacity, a bi-directional capability, dedicated free channels, etc. What percentage of metropolitan area homes will become CATV subscribers to receive the conventional cable services? How many will pay extra for some assortment of presently known (and not yet discovered) cable services? What about the educational, governmental and business usage of cable? We have no case histories to point to. It is as though we knew the caterpillar (past, small market CATV) was going to turn into some species of butterfly (future, major market CATV) but in the current cocoon stage we can't predict what the creature will look like. This situation results in numerous, fascinating "Visions of Cablevision". There is no sure method of forecasting the accuracy of the various visions.

In search of immature butterflies from early hatches, some of the first cabled major markets were visited. In Manhattan, the nation's first public access operation produced some marvelously diverse and interesting shows. However, the combination of a disappointing audience tune-in and the difficulty of originating sufficient programming material indicates that too much channel space may have been allocated for public access purposes. In Dayton, a novel partnership arrangement between a large outside multi-system cable operator and the residents of southwest Dayton appeared to have the inside track to get a franchise for this heavily black area–under a plan calculated to achieve many of the ownership, economic, and community programming goals of the inner-city population. Among the economic findings was a confirmation of the predicted financial problems, especially in New York and Akron, that may bedevil urban cable TV systems. Where subscriber fees and advertising charges comprise almost all of cable revenue, a 40% penetration of homes appears necessary for profitable operation. Losses seem certain to be sustained during the first 5 to 10 years. *A firm conclusion from studying CATV experience in big cities is that subscriber sign-up turns strongly on the amount of mass audience fare and especially sporting events, unavailable on television, that the cable can bring.*

Both CATV's economic future and its position in the American communications field are the subject of a violent and continuing war in which the major contestants are the cable television industry and the broadcasters. The war's outcome and cablevision's fate will be decided by the F.C.C. (and possibly also by the Congress and the courts), principally by the severity of the restrictions eventually placed on the carriage of sporting events, feature films and other big box office attractions on the cable. The Justice Department, too, may have something to say about the

shackles the F.C.C. has imposed on cable television—curbs which grew out of a Congressional abdication of legislative responsibility in this area.

During the next decade, many observers pin cable television's hopes of penetrating the major markets on the exploitation of two-way cable services to homes, businesses and other institutions. Among such bi-directional services that will almost certainly be generally offered, or at least tested, are: burglar and fire alarm protection, shopping from home, meter reading, automatic traffic monitoring, closed circuit audio-video hook-ups between various institutions, facsimile reproduction, telediagnosis, digital data transmission, and both conventional and computer assisted educational instruction for all ages.

More immediately, it is the exciting potential of pay cablecasting (subscription cable) that is expected to unlock the financial gates and afford exploitation of the lucrative big city markets. Experiments now underway in a number of cities will test the validity of the assumption that, in addition to a monthly subscriber fee of about $6, the average householder will also pay $10–$15 for various pay cable offerings, where an extra per-program or per-channel charge is levied. Initially, pay cable fare will lean heavily towards feature films, but a galaxy of cultural, educational, ethnic and other special interest programs are expected to follow. Subscription cable may stimulate the production of many premium quality, specific audience shows and greatly enrich the viewing menu. Subscription cablecasting's bitter antagonists are again led by the television forces. They argue that when cable's present 10% penetration grows to 50% or so in the next decade, pay cable entrepreneurs will be able to outbid advertiser supported commercial television for big box office attractions, and hence, "siphon" them off free TV to the pay cable channel. The F.C.C. has already limited CATV's freedom to import the signals of distant television stations. It has also enacted a series of "anti-siphoning" rules preventing the pay cablecasting of sporting events that have been on free TV within the past 2 years, movies in general distribution from 2 to 10 years and "serial" programs (such as *All in the Family*).

To date, CATV has made no serious inroads on commercial television stations which (except for UHF stations) return a handsome profit—especially the network affiliated VHF stations in major markets. In the unlikely events that the handcuffs are entirely removed from CATV *and* the public prefers to pay extra for cabled sporting events and feature films to avoid the commercial clutter of free TV, many attractions might indeed be siphoned off of television in cabled areas, though they could still be delivered by television stations serving the uncabled rural hinterland. Another penalty that might have to be paid by a decisive cablevision victory over the forces of television would be the loss of the economic efficiency which mass TV advertising produces—a loss that would be only partially offset by the freedom from the intrusiveness of commercial interruptions.

In rural America, the low population densities result in such an inordinately high capital cost per home passed on the cable that private enterprise may never be able to do the job. A giant federally subsidized scheme would seem to be required, if it were decided as a matter of national policy that cable television should be brought to the hinterland.

Federal And State Regulations Affecting The Local Franchising Powers. In its February, 1972 Report and Order and its July Reconsideration, the Federal Communications Commission structured a dual level regulatory framework. At the Federal level a general body of requirements for locally franchised CATV systems has been drawn up, within which substantial prerogatives have purposely been left to the local franchising authority. An F.C.C. Certificate of Compliance is now a prerequisite for the commencement of local cable television service. The franchise negotiated between the municipality and the winning applicant may contain provisions going beyond the federal regulations and requiring specific F.C.C. waivers. The Commission may grant such waivers if the city can demonstrate that the terms incorporate a well thought out plan and also do not threaten the economic viability of the CATV system.

A small but growing handful of states have interposed themselves into the cable picture between the cities and Washington. Neither Ohio nor Kentucky has yet done so, though there are a number of proposals that are being readied for the State Legislature and the Governor in both Columbus and Frankfort. Since it is not known which if any will be enacted, the balance of our discussion on cable television in the Cincinnati area assumes a continuation of the regulatory status quo both at the state and the federal level. However, developments in Washington, as well as at the state capitals, must be closely monitored by all those interested in cable television's future in the Greater Cincinnati area.

Greater Cincinnati Area. Our City Councils, by their selection of the proper cable operator and the provisions written into the franchise, will exercise major decision making powers for better or worse. Still, the attainment of many of the most promising goals will depend on the involvement and contribution of non-governmental organizations and just plain citizens. *Accordingly, each city will end up with the kind of cable television benefits it deserves.* The process by which all of this may best be accomplished is necessarily lengthy and demands an intensive study of this fast evolving field. Then, community objectives must be agreed upon and ranked. Now follows a written model franchise and a determined series of negotiations with franchise applicants. *There is nothing to be gained and much may be lost by a rush to franchise.*

Possibly the most vexing task which should be satisfactorily completed in advance of any further franchising in the Cincinnati metropolitan area is the preparation of an area-wide plan for system interconnection and the overall layout of the cable distribution plant and its facilities—including the location of the master antenna, head ends and program origination studios. Technical problems may prevent full interconnection of separate CATV systems unless they are planned in common and constructed with a mandate for interconnection. Where there is not good interconnection, the main losers are the smaller municipalities. Failure to develop the cable system layout for the metropolitan area will result in costly duplication and uneconomic location of cable lines and facilities in the separate systems. Again, the largest cost penalty will be paid by the smaller cities.

Cable economics do not dictate that individual systems be of massive size to be

economically viable. However, delivery of the full range of first rate cable services is not feasible in an area of less than 25,000 homes. Therefore, smaller communities must band together for common franchising. Thus, the attainment of the cable goals of every community demands it proceed within the context of cooperation with its neighbors, and especially that the location of the Cincinnati master antenna and other portions of the layout plan to be known first. There is no governmental mandate requiring area-wide planning and no easy method of achieving it in a situation where each of the 64 municipalities in Hamilton County, Ohio and Kenton, Boone and Campbell Counties of Kentucky have the identical entitlement to grant a CATV franchise (and 4 already have).

Municipalities and counties in Kentucky, but only municipalities in Ohio, are permitted to grant cable television franchises. Franchising authorities, in conjunction with the Federal prerogatives, have or can acquire the requisite regulatory clout to develop and control the growth of CATV, except for the area-wide planning problem and the present inability to control closed circuit cable enterprises which do not pick up and distribute over-the-air signals. Operations of the latter sort have begun in Manhattan where pay cable movies are sent over telephone company cables into hotels and apartment houses, competing with the city franchised system. Such closed circuit cable businesses are currently outside the regulatory embrace of Washington and Columbus (CATV is not a statutory public utility in Ohio) and Ohio cities.

The magnitude of the problem in the unincorporated areas of Ohio counties, growing out of their lack of franchising authority, is underlined by the fact that 26% of the population of Hamilton County resides in unincorporated areas. *Here, the powers intended by the F.C.C.'s dual level regulatory scheme to be exercised by the local authority, go unexercised.* Thus, Ohio county inhabitants through their elected representatives are *not* enabled to select a cable operator, regulate subscriber rates and enforce the other usual controls provided in a municipal franchise. The only feasible option presently available is for Ohio counties to issue revenue bonds with which to build cable television systems in the unincorporated areas. Leasing of these systems to private cablecasters, in effect, enables the county to become a franchising authority!

The City of Cincinnati. The Cincinnati City Council must decide whether to grant one giant city-wide franchise or a series of them, and whether to let franchises to private enterprise or a municipally owned system leased to a non-profit community operating board. *The advantages of a series of franchises to the communities forming the city seem plentiful.* The presence of numerous systems affords a standard of comparison and competition of a sort, as well as strengthening the City's regulatory hand. Furthermore, many more applicants will be able to afford to bid for CATV franchises if the city is split up into a number of franchise areas.

Unlike the situation in the county, Cincinnati will have all the powers it needs to control a private entrepreneur, first among which is the right to set the subscriber rates. The drive and marketing expertise of a private entrepreneur are required to bring the full array of cable services to the city, to take the substantial financial risk

and to strive for profitable operation in a fairly difficult economic situation (the prospects for economic viability of a CATV system in Cincinnati appear somewhat less hopeful than for the average major market). Compared to a non-profit community board, a carefully selected private cablecaster, given strong citizen involvement, should be able to deliver equally good local programming and provide far stronger mass audience fare. Private ownership is generally the preferred mode in the Cincinnati suburbs. Within the inner-city, the kinds of evolving desires for a separately franchished system with minority ownership participation and programming control (à la southwest Dayton) would be frustrated both by municipal ownership and a single city-wide franchise, alike. *For all of the above reasons, in the city of Cincinnati there appears to be no problems to which municipal ownership is the solution, though there are others it would create.*

A $15–$20 million investment will be required to provide the city of Cincinnati with a 50–60 channel capacity, modern cable television system of the sort presently being planned or constructed in major markets. (The total required to do the job in the four county area of Hamilton, Kenton, Campbell and Boone Counties should fall in the $40–$60 million range.) The cable distribution system generally comprises about 85% of the initial capital cost. The crucial variable is the difference between aerial stringing and undergrounding, which can increase the per mile construction cost by 6 to 10 fold. Most franchises are content simply to require that cable be laid underground only when all other utilities are also laid beneath the streets. Following this guideline results only in coaxial cable undergrounding in the central downtown area of Cincinnati and a very few of the new suburbs. As we prepare for the entry of the third wire into the home, it is tempting to take the opportunity this affords to start reducing the visual blight of aerial wiring by inaugurating a more determined utilities undergrounding program.*

If the undergrounding decision is the main determinant of cable cost per mile, the density (the number of households per cable mile) is the other key factor in the cost per subscriber. The latter is the primary basis on which a city will set the subscriber monthly charge. The large diversity in both cable cost and population density per mile results in a wide range of costs per household and raises the question of the equity of a uniform, city-wide charge – a practice adopted by most municipalities.

In a well developed, computerized two-way cable system, there is the danger of the unauthorized dissemination of the viewing and responding habits of home subscribers, as well as the possibility of tapping into the cable. There seems to exist a serious potential for the invasion of privacy against which we are not sheltered by present legislation. Many writers have conjured up the specter wherein cable television becomes the messenger through which the prophecy of "1984" is delivered. While the vision is probably exaggerated, it has sufficient reality to require our attention.

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*A separate but related factor is an 1891 ordinance granting the city certain rights of free use for aerial or underground wiring for telegraph and telephone service, that may possibly now be advantageously applied to the cable television purposes of municipal government.

Recommendations

This summary does not attempt to present a comprehensive check list of the many matters that will have to be covered in the ordinance and franchising agreements. It simply sets out a group of major recommendations. The emphasis is on those situations where the city has major decisions to make because the standard form has not been set by the Federal Communications Commission.

1. **Welcome the Arrival of CATV**. The prospect of the inauguration of cable television service, though not an unmixed blessing, should be welcomed. It must form the occasion for involvement in the planning process by diverse groups of citizens throughout the Cincinnati metropolitan area.

2. **Metropolitan Area Planning**. It is essential at once to develop a plan which includes a detailed layout of the metropolitan area cable system with the location of its principal facilities and a method for interconnecting its separately franchised components. Four non-mutually exclusive paths should be pursued simultaneously:

- O.K.I.–Especially as a means of co-ordination between the portions of our region located in the three different states.
- Discussions between neighboring franchising authorities–Particularly where small size dictates the necessity of joint planning to achieve benefits not obtainable individually.
- The Cincinnati Cable Task Force–To make certain that the wealth of information being developed there is also studied by the counties and other municipalities.
- Delegation of planning and interconnection powers by municipalities to Ohio counties (as permitted under Section 307.15 of the Ohio Revised Code)–To place centralized and legally binding authority for the performance of such functions in both the incorporated and unicorporated areas of Ohio counties. Counties in the Cincinnati television market should also consider delegating these powers to one of their members who could perform the over-all planning role for the Ohio portion of our area.

3. **Franchising Moratorium**. All municipalities in the Greater Cincinnati area should declare a franchising moratorium until each has completed the task of studying CATV's implications and has identified and ranked the goals it wants its CATV system to deliver. While these deliberations are in process, the steps outlined in Recommendation No. 2 will hopefully have produced a metropolitan area cable plan into which the individual portions may be fitted. Only then, should the bidding and actual franchising process recommence in earnest.

4. **County Ownership and Leasing Program**. Ohio counties in the Cincinnati metropolitan area should issue revenue bonds to construct a series of CATV systems, each costing less than $5 million, covering their unicorporated areas and following township lines, where feasible. This procedure is sanctioned under Chapter

165 of the Ohio Revised Code. The county should lease the operation of these systems to a cablecaster being granted the CATV franchise in a contiguous sector of Cincinnati, or other municipality. In so doing, in effect, the county becomes a franchising authority.

5. Common Municipal Franchising. Municipalities having populations of less than around 75,000 persons (25,000 homes) should cooperate with their neighbors for common franchising. By this step, their citizens will not be penalized by the higher costs or diminished services that will characterize smaller cable systems.

6. Interconnection Mandate. All franchised cable systems should be required to interconnect with their neighbors and with the City of Cincinnati's CATV system. Within the reasonable construction timetable called for by the F.C.C., periodic engineering checks should be carried out to make certain that full interconnection is being achieved.

7. Capabilities of the CATV System. Cincinnati area cable subscribers should be provided with a modern CATV system of the sort being constructed and planned in the major cities. A dual trunk cable should be laid with a forward capacity of around 50 channels plus return channels. Set-top converters should be furnished from the start, as should some sort of computer at the head end.

The second trunk should not necessarily be initially activated. The 25 to 30 channel household service afforded by a single cable may be very sufficient for the early years. Assuming reasonable plans for its utilization are in hand, an institutuional network serving schools, hospitals and other public institutions should be seriously considered for the second trunk.

In the absence of an engineering and feasibility study and without the benefit of the pay cable and two-way test market results that will be available within the year, it is impossible to make more precise recommendations. However, as a general guideline, the system should be built only to serve reasonably anticiapted, near-term demands. It would be unwise to place an extra financial burden on the cable operators and higher subscriber fees on the public by opting for a more elegant or higher capacity system, given the rapid pace of technological improvement and the vast unknowns concerning cable television in the major markets.

8. Technical Standards. Cincinnati (and other municipalities) should probably supplement the F.C.C.'s admittedly inadequate technical standards, keeping in mind that it will have to shoulder the enforcement burden of standards in excess of F.C.C. requirements. Expert engineering advice must first be obtained.

9. The City of Cincinnati Franchise Areas. The City of Cincinnati should be divided into 3 to 5 franchise areas with careful attention given in the drawing of the boundaries to commonality of neighborhood interests, economic viability, geographic factors, etc.

10. Cincinnati Franchise Awards to Private Enterprise. Cincinnati franchises should be awarded to private enterprise groups to own, construct and operate its 3 to 5 cable systems. A diversity of styles should be encouraged from MSO's to groups of essentially local entrepreneurs. City Council should look favorably on granting a franchise to a group in the inner-city, if strong community sentiment there develops in support of an adequately financed enterprise with black and other neighborhood equity participation and programming responsibility. The general criteria Council should be seeking in its applicant corporations and their managements are:

- The ability to bring to Cincinnati cable audiences mass appeal sporting events and other big box office entertainment packages not available on over-the-air television.
- The ability to create and stimulate interesting local programming originations.
- A track record of successful CATV operations elsewhere, including demonstrated ability to construct a reliable cable television plant, to render efficient subscriber repair service, to provide good programming, to cooperate with City officials and community groups, and to manage the business successfully.
- Financial responsibility.
- Strong marketing expertise.
- Local equity participation.
- Key management personnel with a strong record of involvement and achievement in a broad range of civic affairs in our City.

11. Buy-Out Provision, Non-Exclusive Franchises. Franchises should include at the end of the standard 15 year F.C.C. term, or sooner upon substantial non-performance, a provision entitling the city to purchase the franchise on a specified in advance and mutually fair basis.

Non-exclusive franchises in each area should be awarded as a further insurance against non-performance or lack of cooperation with the city authorities.

12. Change of Franchise Ownership. Transfers of major blocks of stock in the corporation of the franchisee, which result in a change of the ownership control of the grantee's company, may be made only with the consent of City Council.

13. Cincinnati Department of Cable Television. A Department of Cable Television should be set up reporting directly to the City Manager. Its operating chiefs must be men of scope–perferably combining experience in the areas of engineering, business administration, communications and city management.

The duties of the Department of Cable Television should include monitoring for compliance with technical standards, policing the quality of cablecaster repair service, engaging in future planning where the needs for new cable service are analyzed, auditing the franchisees' finances, making suggestions on rate changes, and generally watching over the CATV operations to protect the interest of the city and its inhabitants.

A separate responsibility is to encourage the proper development of the public access program. Probably in conjunction with a private group, the Department should make sympathetic but realistic appraisals by tabulating hours of undupli-

cated programming produced, conducting audience viewing surveys and monitoring the level of feed-back and community interest generated.

14. Subscriber Fees. Installation charges and monthly subscriber fees should be uniform within each franchise area. In the likely event that, between the various franchise areas, there is some difference in the package of subscriber services provided and a greater difference in the per household costs, it would be inequitable both to the operators and the users to mandate a uniform city-wide subscriber fee.

15. Undergrounding, Cincinnati's Possible Reserved Space. CATV cables should be laid underground where all other utilities are similarly situated. Where telephone wires only are underground, and there is space in the ducts with no reasonably forseeable near-term future use by the telephone company, cables should be laid in the ducts assuming the cost penalty is not inordinate.

Beyond that, coaxial cables should be strung aerially unless a total utilities undergrounding plan, of which CATV is a part, has been adopted. A utilities undergrounding study should be undertaken immediately.

The City should explore whether it is entitled to receive payment from the telephone company for release of its reserved duct and pole space and whether it may be entitled to its own free cable in this space, under the provisions of the 1891 City Ordinance.

16. Invasion of Privacy. Cincinnati, and all municipalities, should enact ordinances protecting the citizens against unauthorized invasion of privacy, either by tapping into cable wires or releasing subscriber viewing and responding habits, without the subscriber's written permission. Qualified engineers should advise the City Council of the various technical options, and the cost of each, for building some anti-snooping safeguards into the cable television plant and equipment. The extent of the safeguards to be built in should depend on the extra protection afforded and the additional costs involved.

17. Public Access. The metropolitan area plan should include the location of local origination facilities and the provision of mobile equipment for the public access program. No more than the one F.C.C. required public access channel will be needed, at least initially. Existing facilities and expertise at WCET, and elsewhere, should be utilized to the fullest to prevent unnecessary duplication of the community's scarce resources in this area.

An initial training program designed to teach local groups how to use the equipment and stage their access productions is essential. Every effort should be made to fund this program from a variety of non-governmental sources.

18. Obtaining Educational and Health Care Benefits. Provisions assuring initial and continuing channel space at favored rates for education and health care delivery should be written into the franchise, assuming (as the writer does) that these have

been identified as the major service areas where CATV can provide the greatest public benefit, and further assuming that the responsible city departments, boards and citizens groups have first developed careful utilization and economic feasibility plans.

To help underwrite these services, the city should levy a small additional percentage franchise fee on gross subscriber revenues. But, most of the funding will have to be found outside of the cable television operation! (The combined revenues of all the CATV systems in the City of Cincinnati will be relatively small—in the $4–$10 million range—5 years after the commencement of service. The aggregate operations will show a loss at the lower end of this revenue range).

Franchise applicants should be made to understand that these are priority city objectives and should be requested to detail in their bids exactly how they propose to deliver them.

We stress that the F.C.C. waivers required by some of the foregoing will not be granted unless the Commission has found that the City is almost immediately able to commence the delivery of these educational and health services, and, in a manner that does not unduly threaten the economic viability of cablevision in Cincinnati.

19. Non-Severability. The franchise agreement should include a non-severability clause, requiring that if the F.C.C. has significantly altered any of the franchise terms in its certification process, that a Certificate of Compliance may not be granted the Commission-altered franchise. Instead, the city shall retain the prerogative of modifying it further still and reawarding the franchise to a different applicant, if it desires.

Footnotes

Chapter 1

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Chapter 4

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